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Reviews.

The History of China, Pictorial and Descriptive, from the earliest period to the present time. Part 2. By Miss Corner. London: Dean and Co.

[Continued from our last].

The law of primogeniture, the propriety of which has been so often discussed, was abolished in China by the Emperor Outi, who made a law that the family estate should be equally divided amongst the male children, except that the eldest had two portions.

"A daughter had no inheritance, neither did she receive any marriage portion from her parents. On the contrary, she was in a manner bought of them by her future husband or his friends, who sent presents according to their means, as was the custom as far back as in that primitive age when Abraham sent his steward to seek a wife for his son Isaac, who took with him jewels of silver and jewels of gold, and raiment, which he presented to Rebekah and her friends on his asking the damsel as a bride for his young master. As daughters and wives, the women of China were not held in much consideration; but as mothers, they were treated with the utmost respect, especially by their sons, who even when themselves advanced in years, paid great deference to the commands and counsels of an aged mother."

Like most nations, not excepting even those that call themselves the most Christian, the Chinese believed in dreams and spells.

"A belief in astrology was universal, and charms and talismans were frequently resorted to, even by the most learned men of the age, by the power of which they hoped to avert an impending evil. One of these popular superstitions was exemplified in a singular manner during the war of the three kingdoms, by a chief named Kung Ming, who was a great astrologer, and very often consulted the stars on the subject of future events. One night, being thus engaged, he fancied that he saw signs in the heavens, predicting that his own death would take place in a few hours; but as he was not willing to die so soon, he lost no time in endeavouring to avert the fatal doom by means of a spell. He lighted a number of lamps in his tent which he placed in a particular order, corresponding with the position of the heavenly bodies at the time, and then composed a sort of prayer, which he continued to repeat incessantly as he sat on the ground before the lamps. But all was unavailing, for ere the sun arose he had breathed his last sigh, most probably in consequence of the excited state of mind produced by his own superstitious dread. The inefficacy of the charm was thus clearly proved, yet the superstition still remains, and many of the Chinese occasionally light lamps, and arrange them in correspondence with the position of the stars, in the full persuasion that a threatened misfortune may be thus averted."

The advantages of trade, and other motives, have operated in China as in Russia, Persia, and other eastern countries, in causing the seat of government to be removed from one city to another.

"The ancient capital of the Chinese empire was Hong-chow-fou, a large wealthy city, situated at no very great distance from Nanking, and containing an immense population, chiefly engaged in the manufacture of silk. The Imperial Palace, standing in the midst of extensive gardens, was adorned with eastern splendour, and near it were several magnificent temples, and many fine residences, belonging to the grandees of the court. Like all the great cities of China, it was surrounded by a high wall and covered an immense extent of ground; for as none of the buildings exceed one story in height, they occupied the greater space, so that a Chinese town of six miles in circumference did not contain, perhaps, more houses than one not half the size in Europe, where the style of architecture was different, and the dwellings were high rather than of wide extent. The first sovereign of the new dynasty of Tsin removed the seat of government to Kai-fong-fou, another large city, standing in the centre of the empire, in the province of Honan, one of the most fertile and beautiful parts of all China, and this was the royal residence until the reign of Ouenti, the fifth emperor of the line of Tsin, who built a very magnificent palace at Nanking, where the court was held with more splendour than had been exhibited by any of the former sovereigns."

The warlike Huns invaded the empire on different occasions, and after the war of the three kingdoms, they made the emperor captive, and the barbarian prince made him wait upon him at table, and had him cruelly put to death; his son also was obliged to attend as the chieftain's slave, and to carry his parasol, and soon shared the fate of the emperor, on an attempt being made for his liberation. The Huns were afterwards expelled by another prince of the royal family, after doing great mischief. By the extravagance of the court, the people were incited to insurrections, and the Tsin dynasty was overthrown by one of those singular revolutions which are not uncommon in despotic countries.

"A poor boy named Lieouyu, born in the city of Nanking, had been left a destitute orphan at a very early age, and must have perished from want, had not an old woman, who took compassion on him, brought him up as her own. As soon as he was old enough he learned to make shoes, and sold them in the streets of the city; but he was so idle and careless, that those who knew him predicted that he would come to no good; little thinking that they were speaking thus irreverently of the future emperor of China. For a long time Lieouyu carried on his shoe trade, by which he earned a scanty livelihood, without concerning himself much about his condition, until he happened to attract the notice of a military officer, who had probably stopped him to make a purchase, and who, being pleased with his replies to some questions he had put, proposed to him that he should become a soldier. As fighting was an occupation better suited to his taste than shoemaking, Lieouyu at once accepted the offer, and having been introduced into this new scene of action, he displayed so much courage and ability that he was promoted in his profession by degrees, till he became chief commander of the imperial forces, and in that capacity rendered such important services to the emperor, during a serious rebellion, that he was elevated to the rank of chief minister of state. By this time he had become very ambitious, and, like all ambitious people, was not content to stop at any point while there was still a higher one to attain; therefore he took advantage of the prevailing disaffection towards the reigning family, and having made himself exceedingly popular, seized a favourable opportunity of aspiring openly to the throne, and by the aid of a powerful party, compelled the emperor to abdicate in his favour. Such was the remarkable career of Lieouyu, who was proclaimed in the year 420, by the name of Outi, and was the first sovereign of a dynasty called 'Song.'"

The new sovereign rewarded his friends, and particularly the old woman who had taken compassion on his orphanage, and was a patron of the arts and sciences. After his dynasty became extinct, no less than five usurping families reigned in succession, and the country exhibited all the atrocious scenes of violence which generally belong to military despotism. However, these people necessarily kept up a commercial intercourse with the internal parts of Asia, by means of overland caravans, as they have ever since continued to do.

"There is every reason to believe that the Chinese, during this time, were carrying on an extensive trade with the Arabians and Persians, whose caravans made regular journies to the frontiers, from whence they returned laden with silks, of which a portion was sent to Constantinople, for the use of the luxurious inhabitants of that city. We must here remember, that after Rome had been taken by the Goths, Constantinople, where the Roman emperors had held their court ever since the time of Constantine the Great, remained, wit

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a large portion of what was termed the Empire of the East, in possession of the Romans. It was then the most wealthy city in the world, and its inhabitants indulged in every rare and costly luxury; silks were in great demand, and were supplied at immense prices by the merchants of Arabia and Persia, who, however, could afford no information respecting the Chinese, because they were never permitted to pass beyond the boundaries of the empire, neither did they know that silk was produced by insects; therefore we may reasonably infer that the Chinese were studious to keep that fact from the knowledge of foreigners. It was about the middle of the sixth century, and during the time that China was in the state of anarchy above described, that the secret was discovered, and brought into Europe by two Persian monks, who went as Christian missionaries into distant lands, but whether it was in India or in China that they made the valuable discovery alluded to, has never been ascertained. However, it is certain that they carried the intelligence to the emperor Justinian, and undertook, for a large reward, to procure for him a quantity of silk-worms' eggs, an exploit that would have subjected them to the punishment of death, had their meditated theft been discovered by the natives. But the monks were fortunate enough to escape with the stolen eggs, which they carried to Constantinople inside of a cane; and as they had made themselves acquainted with the art of rearing the worms, the little creatures multiplied very fast in the warm climate of Greece, and were the progenitors of all the silkworms propagated in Europe."

The very remarkable custom of compressing the feet in females commenced about the year 900.

"The origin of this absurd and unnatural practice is unknown, nor is it easy to imagine what could have induced women in the first instance thus to deform themselves; for although vanity may be a powerful inducement for the continuance of a custom that distinguishes the higher from the lower classes, it hardly accounts for the first introduction of this practice, as any other distinctive mark, less powerful and less inconvenient, might have answered the same purpose. The daughters of all people of rank are obliged to submit, at an early age, to have their feet cramped up and tightly confined with bandages, which are not removed for about three years, when the bones are so far compressed, that the feet never assume their natural shape and size. The health of the children generally suffers much from the want of proper exercise during this cruel process, and the enjoyment of after life must be greatly diminished by the difficulty which females find in walking, or even standing without support. Yet they are proud of their very helplessness, and would think it excessively vulgar to be able to walk with a firm and dignified step. The lower classes cannot follow a fashion that would disable them from pursuing their daily labours, yet many parents in a very humble station of life are not free from the vanity of desiring to have one daughter with small feet, the prettiest child being usually selected for that distinction; and such is the force of fashion, that the little damsel, who is thus tortured and crippled, is looked upon as an object of envy rather than of pity."

We may hope that the better acquaintance of these people with European manners, will tend speedily to abolish so absurb a custom, as that above mentioned, and enable the fair daughters of these extraordinary people to walk abroad amongst the beautiful scenery with which their country abounds.

General History of the World, from the earliest times until the year 1831. By Charles Von Rotteck, LL.D., Professor in the University of Freiburg, Aulic Counsellor, Member of the Chamber of Deputies of the Grand Duchy of Baden, &c. &c., 4 vols. 8vo., Translated from the German. London: Longman and Co.

THIS work is very popular, and, says the English preface, "stands pre-eminent in the historical literature of Germany; and its acknowledged merit and increasing popularity have induced the translator to present it to the English Reader." It is said, that above 100,000 copies have been sold in Germany.

It is, indeed, a *multum in parvo.* Although called a *general history*, it is a very *brief sketch* of history. As a compilation from the histories of all nations, it will be found useful in giving a general notion of the skeleton or bones of the edifice of history, and to those who have but little time to read more elaborate works, or are content with the knowledge of the general outline of events, it will be acceptable.

After discussing the changes of the human race, the utility of history is considered and made plain as far as outline, which, for general purposes, is perhaps sufficient to inform the minds of those who compose the mass of mankind.

The Professor divides history into three portions—

I. *Ancient History,* from the commencement to A.D. 400.

II. *Middle History* from A.D. 400 to 1500.

III. *Modern History,* from 1492 to our own times.

These he sub-divides into nine periods—

1st, From Adam to Cyrus, A. M. 1 to 3425.

2nd, From Cyrus to Augustus, A.M. 3425 to 3953.

3rd, From Augustus to Theodosius the Great, A.M. 3953 to A.D. 395.

4th, From Theodosius to Charlemagne A.D. 395 to 800.

5th, From Charlemagne to the end of the Crusades, A.D. 800 to 1300.

6th, From the Crusades to Columbus, A.D. 1300 to 1492.

7th, From Columbus to the Peace of Westphalia, A.D. 1492 to 1648.

8th, From the Peace of Westphalia to the French Revolution, A.D. 1648 to 1789.

9th, From the French Revolution to the present time, A.D. 1789 to 1840.

This arrangement is well calculated to fix dates, and thus to impress the thread of consecutive events on the mind.

"The materials," he says, "of the history of the world, are therefore, *art and science, religion and the constitution of states, morality and manner of life.*" The object of this work is to *facilitate a general survey.* "Completeness in the *whole,* as far as the limits of the book permit, and a law of *selection* everywhere uniformly observed, but not uniformity in *the exterior arrangement,* are designed to be the character of this book."

The author has carried out this design with great ability, and condensed into his four volumes an outline of what has been written on this vast subject, under the general heads of *chronology, the character of the ancient world, the theatre of events, civilization, language, writing,* and other facts in the progress of the human mind, &c. &c. &c.

Our limits will not permit us to enter at length into these various and important inquiries. but we select a passage on *language,* to show the mode of his reasoning:—

"Language."—"How has this inestimable and wonderful gift of heaven originated? was it *innate* in man, or has he formed it himself? Many have maintained the first, which is at variance with all nature. The *capacity of speech* is indeed *innate* in man, but it must, as all his dispositions and faculties, be developed and cultivated by external causes. *A long gradation must be passed in the formation of a regular language.*

"But what was the *first* language of man? We consider this question unanswerable. But it is sufficient to know, that the first remained not the sole one, but that there arose many different languages; and, indeed, according to the words of Moses, by the confusion of languages that ensued at the construction of the tower of *Babylon* (*Babel*) by means of a *divine prodigy;* but *according to the reasonable explanation as a natural consequence of the dispersion, there, or wherever, it happened, of men into all the regions of the world.*"

It is true that the dispersion of the human race, climate, and localities would soon cause a great variance in language, but that it would produce languages totally different in construction, from that spoken and understood by the whole human race, may justly be questioned if not denied. We regret to observe a spirit of scepticism of the sacred writings appear in this otherwise useful and valuable work. The author, like many of his countrymen, is apt to question, we think on very light and insufficient grounds, the accuracy of the events related in the Scriptures. In speaking of Egypt he says:—

"The population of Egypt and its civilization are *more ancient than the Deluge.* Had this *reached Egypt*, could Abraham have possibly found there already a well regulated state, and luxurious court? and, indeed, how could Lower Egypt become inhabitable, but by the work of centuries? Therefore, the Noachidæ *were not the original inhabitants of Egypt.*

There is nothing in the account given by Moses, of Abraham's sojourn in Egypt, to justify the supposition of a well *regulated state* or a *luxurious court,* but the contrary, for the arrival of this stranger and his handsome wife seem to have created a sensation, only to be effected in a *very primitive state of society.*

It is much to be regretted, that these passages and such like, were not omitted in the English translation, the work has great merit as a compilation and digest, but it is alloyed by these weak and unnecessary opinions here and there thrown in, with, however, the inconsistency of an otherwise general affected respect for the Sacred writings. This work will obtain a circulation among us, and we regret we cannot but caution our young readers against the insidious poison mixed with much which is valuable. We cannot give our adhesion to many of the opinions of the writer. He brings civilization down the Nile *from Nubia,* and supposes that it had its origin there, which we think erroneous. In describing the early history of man, there are many speculations which tend to latitudinarianism; but the digest, within what may be considered the historical period, is admirable, and will give to those who, in this busy age, have not time or inclination to undertake even the summary of the Universal History, a concise but clear view of the long stream of time, by bringing the striking features under their notice, and to instruct them in the grand outlines; which, being once possessed, the minute portions may easily be obtained by reference as occasion may require.

But for the loose opinions expressed on the Sacred histories, we could recommend these volumes with satisfaction, as a most able, clear, and concise digest of history.

A System of Clinical Medicine. By Robert James Graves, M.D., M.R.I.A., one of the Physicians of the Meath Hospital and County of Dublin Infirmary, &c., &c. Dublin: Fannin & Co. London: Longman & Co., and Henry Renshaw. Edinburgh: Maclachlan and Stewart. 1843.

(Continued from our last.)

No proposition of the present time, has perhaps given rise to more discussion than that of Leibeg, which may thus be propounded. In cold countries, men naturally consume more animal food than those living in hot countries; and he quotes the Esquimaux Indians as an example. A great difficulty, however, arises here in the outset, for it is as difficult to disprove the proposition if it be untrue, as to prove its truth, if according to facts. Liebeg asserts that the carbonic acid gas which we exhale, is produced by the combination of the oxygen of the air which we breathe, with the carbon or charcoal which abounds in the food which we consume, and that the combustion which takes place in this chemical process, produces a supply of animal heat equal to that which would take place by the combustion of a similar quantity of carbon or charcoal in atmospheric air. Now about three-fourths of the blubber, and candles, and oil, and bacon, and fat, on which an Exquimaux feeds with such undisguised pleasure, are composed of pure charcoal, and consequently, as this charcoal disappears, and heat or caloric is produced after eating, the more that men eat in intensely cold climates, the more is the increased supply of heat afforded; according to Liebeg, the appetite of these people is in proportion to the degree of cold which must be counteracted by animal heat. Dr. Graves is at issue with Liebeg on this theory. He has not, indeed, entered the field of chemistry with this accomplished professor, but reasoning from facts, he has certainly proposed some objections which it would be worthy of Liebeg to answer. He gives an analysis of the theory itself, which is copied from the *Provincial Medical Journal*, and is as follows:—

"The carbon and hydrogen of food, in being converted by oxygen into carbonic acid and water, must give out as much heat as if it were burned in the open air. The only difference is, that this heat is spread over unequal spaces of time; but the actual amount is always the same. The temperature of the human body is the same in the torrid as in the frigid zone. But as the body may be considered in the light of a heated vessel, which cools with an accelerated rapidity, the colder the surrounding medium, it is obvious that the fuel necessary to retain its heat must vary in different climates. Thus less heat is necessary in Palermo, where the temperature of the air is that of the human body, than in the polar regions, where it is about 90° lower. In the animal body, the food is the fuel, and by a proper supply of oxygen, we obtain the heat given out during its combustion in winter. When we take exercise in a cold atmosphere, we respire a greater amount of oxygen, which implies a more abundant supply of carbon in the food; and by taking this food, we form the most efficient protection against the cold. A starving man is soon frozen to death; and *every one knows that the animals of prey of the arctic regions are far more voracious, than those of the torrid zone.* Our clothing is merely an equivalent for food; and the more warmly we are clothed, the less food we require. Were we to go destitute of clothes, like certain savage tribes; or if, in hunting or fishing, we were exposed to the same degree of cold as the Samoyedes, we could with ease, consume 10 lbs. of flesh, and perhaps, a dozen tallow candles into the bargain, as warmly clad travellers have related with astonishment, of those people. Then could we take the same quantity of brandy, or blubber of fish, without bad effects, and learn to appreciate the delicacy of train oil. We thus perceive an explanation of the apparently anomalous habits of different nations. The macaroni of the Italians, and the train-oil of the Greenlander and the Russian, are not adventitious freaks of taste, but necessary articles, fitted to administer to their comfort in the climates in which they have been born. The colder the region, the more combustible must the food be."

The theory of the combustion of the carbon received with our food, may be readily admitted, as carbon is contained in a large proportion in every thing on which we subsist. Combined with oxygen and hydrogen gas, the component parts of water, it is the original substance of which all vegetable matter is composed, with occasionally some other small additions, and it forms the solid base of all animal food. The air which we exhale from our mouths, is similar to that which is produced by the combustion of carbon in atmospheric air, therefore a combination must have taken place, and hence the ground-work of Liebeg's theory. But there appears to be reason for many objections to his inferences, when such arguments can be adduced as in the work before us:—

"It is, I must confess, quite new to me that our clothing is merely an equivalent for food, and the more warmly we are clothed, the less food we require. Take the well-clad, and warmly-clothed country squire, and compare the quantity of food which he devours, with that which is consumed by his ragged labourers, and it may be asserted, that the balance will be as much in favour of the squire's food as of his raiment. The voracious Samoyedes referred to, however barbarous in their manners, are an extraordinarily warmly clothed race, and the semi-putrid fat and blubber of whales, agrees with the stomach of the Laplander, as well in the heat of summer, as in winter. In the arctic and cold regions of the earth, man is driven by necessity to subsist on animal food, which is supplied to him by the unfrozen depths of the ocean, for in those inhospitable regions, vegetable life is almost a stranger, and therefore it is that the Laplander, the Greenlander, and Samoyedes subsist almost exclusively on animal food. In the expeditions of Franklin, Parry, and Ross, our countrymen braved all the rigours of an arctic winter on the same food which they were in the habit of consuming in milder climates; and if it be true, as stated in the above passage, that in the animal body the food is the fuel, and by a proper supply of food, we obtain the oxygen given out by its combustion in winter: if this be true, it is strange that there is no record of its being found necessary to give our sailors more food during the extreme cold than at other periods.

"Facts are wholly inconsistent with many of Leibeg's allegations. All hunting tribes of mankind, whether in northern, temperate, or tropical regions, subsist chiefly on animal food. This is true of the North and South American Indians, and it is true of the Hottentots; and indeed our travellers relate prodigies of gluttony enacted by the latter; for when, after a long fast, they suddenly obtain abundance of game, they will sit up the whole night occupied in cooking and devouring steak after steak, unaccompanied by a morsel of vegetable food, and at such times, so indefatigable are they in the business of eating, that the party which over-night had tightened their famine girdles to the last hole, have enormously distended abdomens on the following morning; and this too, in the heat of Africa, where certainly no additional fuel was required for supporting the animal temperature. If Leibeg's theory be correct, that animal food is peculiarly adapted to cold climates, how comes it that the most voracious carnivorous animals abound in the hottest regions of the earth. The Bengal tiger, and the African lion, and the Boa-constrictor of South America, together with alligators, and crocodiles of the Nile, the Ganges, and the Oronooko, all subsist solely on animal food; and on the other hand, among the whole tribe it is observable, that they abound in every variety of oceanic temperature, where the appropriate animal food occurs; and the same observation applies to fishes in general. Take the antelope, and the gazelle of Africa, which would shiver from cold during the warmth of an English summer; and compare them with the rein-deer, that bears with impunity, and that for months together, a temperature far below zero, and how can we explain the difference by Leibeg's theory, for they both subside on vegetable food? Facts, such as these, are not merely irreconcilable with, but destructive of that theory."

If Leibeg had confined his theory to the quantity and not to the quality of human food, it might have been easier to support his premises, though still many objections would remain, for surely, vegetable food furnishes a large proportion of carbon to combine or enter into combustion with the inhaled oxygen; but in the present state of the question, we must agree with the learned author of the volume on clinical medicine, that the theory is irreconcilable with facts. We will now conclude with one extract more, but would be glad to return to the subject on a future occasion. Where Liebeg says, "that every one knows that the animals of prey of the arctic regions, are far more voracious than those of the torrid zone"—the learned Doctor facetiously observes—

"I cannot guess how every body comes to know all this; for my own part, I think it may be maintained, that a Bengal tiger, or Cape hyæna, requires, in proportion to its size, quite as abundant rations as any of the arctic carnivora; and as to the vultures of Hindostan and Persia, where on earth, in air, or in water, can be found such gluttons? Neither do I think that any one (not to say every body) would be prudent in counting on the abstinence of the shark, even within the tropics! Although religious ordinances prevent the Hindoos from eating beef, yet both they and the Arabs occasionally devour mutton in astonishing quantities. Those who ride over the Pampas, in South America, at the rate of one hundred miles a-day, exposed to a burning sun, subsist entirely on broiled beef and water, without a particle of vegetable food of any kind, and yet they attain to an extraordinary condition, and capability of enduring violent and long-continued exertion. Leibeg's theory must be very ductile, if it can explain how it happens that an exclusively animal diet agrees with man, quite as well at the equator, as within the arctic circle."

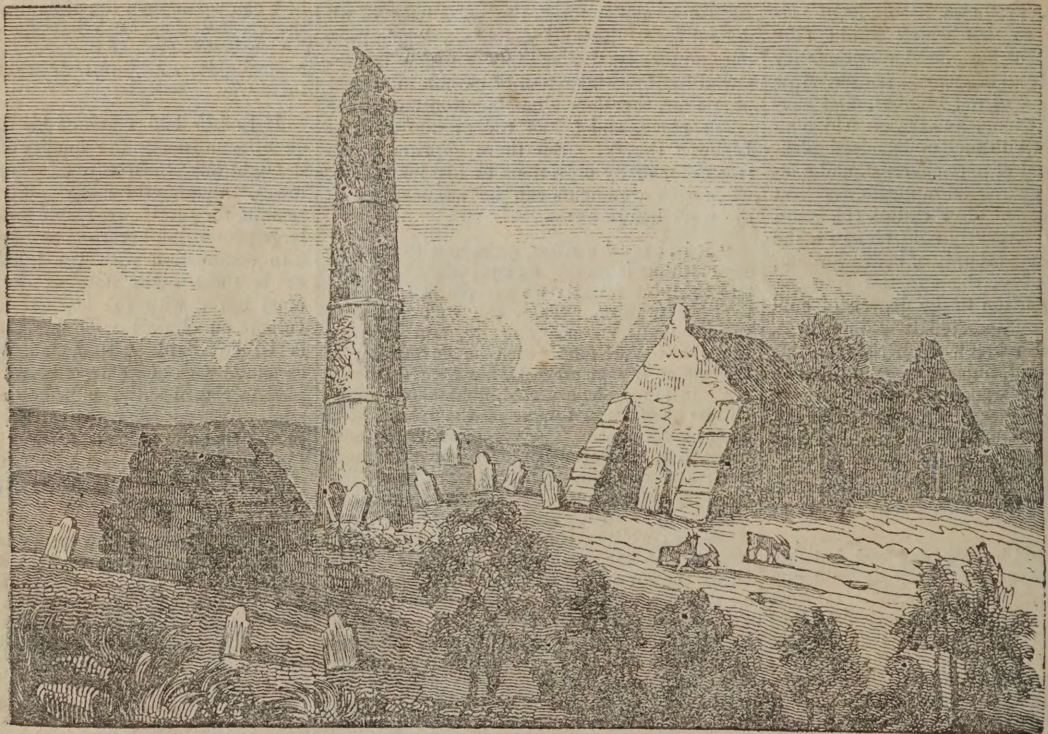
The extracts which have been taken from this most valuable work, are calculated to interest the general reader. We have not done more than generally to allude to the medical part, because every medical man who intends to perform his duty to his patients, has or ought to have a copy of the work upon his table.

Etruria-Celtica.—Etruscan Literature and Antiquities investigated; or, the Language of that Ancient and illustrious People compared and identified with the Iberno-Celtic, and both shown to be Phœnician. By Sir William Betham, Ulster King of Arms, V. P. R. D. S., F. A. S., M. R. I. A., &c. &c. 2 vols. 8vo. Dublin: P. D. Hardy & Sons. London: R. Groombridge, Boones.

(Continued from our last.)

It is well known that many primitive languages are composed of words of one syllable. This is common to the Chinese, the Celtic, &c. &c., where each syllable means a single word; and words containing compound ideas are formed of more than one of these monosyllabic originals. This fact we trace in English, in Greek, in Latin, also, although the primitive originals are not always so clearly evident as in the first-mentioned languages. The learned author of Etruria-Celtica has recorded the opinion, strongly supported, we must say, by his Irish dictionary, that many of those proper names, which now exist in Italy, are of Etruscan origin, and can be found in the Irish dictionaries, with interpretations strictly expressive of the *character* of the places. Being aware of the prejudices which existed against this theory, we thought it our duty, as reviewers, to examine this fact closely; and, distrusting our comparatively trifling knowledge of the Celtic tongue, we consulted the best Irish dictionary, and find that many of the words are genuine Irish, containing the the identical letters with which the words are spelled. A slight difference must naturally be expected from the length of time which has elapsed since the separation of the Italian and Irish dialects of the ancient Celtic tongue. A few examples will suffice to demonstrate this position, and we shall give the Irish monosyllable words in English letters, which will be more easily understood. Campania—The district about Naples, has ever been celebrated for fertility of soil, beauty of climate, and commodious harbours, and has justly obtained the title of the Garden of Italy. Its name gives it all these attributes, *caom*, beautiful, *ban*, bright, *ia*, country. Liguria—This country is now called Piedmont, and lies to the west and south of Gallia Togata, on the coast of the Tyrrhenian sea. Geneva is the chief city. The name is obviously the rocky coast, *liag*, rocky or stony, *ur*, coast, *ia*, country. Every word here is *pure Irish.* O'Reilly's excellent Irish dictionary informs us that *ia*, which in Irish means country, is the Etruscan root of the similar terminations in Latin proper names, such as Gall-*ia*, Ital-*ia*, &c. &c. Gallia Togata—It is said that this country was called Togata by the Romans, because the inhabitants wore the Roman togata or robe. It is, perhaps, the best watered and the most fertile country in Europe, enjoying a delightful climate. Its name, Togata, says all this, *tog*, choice land, *a*, the, *ta*, it is, or in English idiom, It is the chosen land. Macedonia—The country of hills and plains; *mag*, a plain, *e*, the, *don*, hill, *ia*, country. The letters *g* and *c* were interchanged in the Irish language, so that we have the exact word Macedonia. Ida—This famous mountain is a long ridge of land, as its name imports, *id*, ridge, *a*, the. Cos—This island is shaped like a foot, and the Celtic for a foot, is *cos*.

We consider these few examples to be sufficient to prove that Sir William Betham's theory has much more than imagination to recommend it. We cannot imagine by what doctrine of chances, the names of mountains, islands, towns, and districts in one country, could be found in the dictionaries of another country, unless those languages were at some period identical, and therefore capable, in a greater or less degree, of explaining each other.



[*Round Tower of Ardmore.*]

The question of the time of the foundation, and of the use of the round towers of Ireland, has puzzled the antiquarians of all countries. Many learned and plausible essays have been written on the subject, without clearing up the difficulty. Sir Wm. Betham thinks that he has at length discovered the solution, and that they were used as a burying place for some order of persons. He informs us that the round towers of Ireland like those of the East Indies, contain under their foundations, the remains of human bodies, and he gives us several instances to prove it: one of them is the round tower of Ardmore, in the county of Waterford, which is above 100 feet high, and 45 feet in circumference, where was lately found a human skeleton lying east and west. The description is contained in an extract of a letter to Sir William, from which the following is a portion:

"It must be fresh in your memory, that in the former excavation I had to sink through a mass of very large stones, so closely packed together, that it was not easy to remove them; but without any mortar, except where they approached or joined the wall of the tower. This description, however, applies to the two or three lower courses of the stones, for the upper were not so close. Your letter, however, and a little of my own curiosity, determined me on sinking deeper. To work, therefore, I went yesterday, and came at once upon regular courses of immense unhewn stones, so packed and joined in with the surrounding work, as apparently to have formed part of the original structure. These stones were so close, that it was almost impossible to get a crow-bar between them, and they were removed with great difficulty. At length we got up the last of them, and found they had been lying on a bed of mortar, quite level and smooth. This mortar was exactly level with the external base of the tower, and I naturally concluded we had arrived at a *ne plus ultra:* but, to my great surprise, the crow-bar went through into soft mould! So down we still went, the stones standing round like the sides of a wall, and about a foot lower down, across the centre of the tower, and lying east and west, we found A HUMAN SKELETON!!!"

The antiquarians were not less successful in the examination of the tower on the north-side of the cathedral of the Rock of Cashel:

"Permission having been obtained from the Dean and Chapter, on the 4th September, 1841, Messrs. Horgan, Odell, Hackett, Abell, Willes, Keleher, and Windele, undertook the task, in the execution of which they were joined by the Very Rev. Dean Cotton. The door is twelve feet above the external base. The interior was found filled with loose earth, intermixed with human bones, about two feet deep!!"

In several other-towers, such as Cloyne, Roscrea, &c. the indefatigable examiners found either skeletons or bones; very clearly establishing the author's theory, that one of the uses to which these *round towers* were applied, was as a burial-place for the dead.

(To be continued.)

Literary & Scientific Meetings, &c.

DUBLIN NATURAL HISTORY SOCIETY.

[*Communicated.*]

THE Annual General Meeting of this Society was held on the 10th March, at their rooms, 202, Great Brunswick-street, when the report of the Council was laid before the meeting, and the officers for the year 1842-43 were balloted for.

G. J. ALLMAN, M.R.I.A. in the Chair.

The report of the Council being adopted, was ordered to be printed. A vote of thanks was proposed (by Dr. Scouler, seconded by Mr. Warren) to the Secretaries for their efficient discharge of the duties imposed on them.

Mr. Hughes proposed, and Mr. Lamprey seconded a vote of thanks to the Council for their zeal in the management of the affairs of the Society for their year of office.

The Secretaries then reported the state of the ballot, when it appeared that the officers for the next year were—

Council—G. J. Allman, M.D. Patrick Boylan, Esq. Thomas Bridgford, Esq. Robert Callwell, M.R.I.A. C. P. Croker, M.D. M.R.I.A. Rev. H. H. Dombrain, W. J. Hughes, C.E. M.R.I.A. R. T. Jones, Esq. Frederick M'Coy, Esq. J. J. Nolan, Esq. G. A. Pollock, Esq. John Scouler, M.D. Aquila Smith, M.D. M.R.I.A. T. W. Warren, Esq. W. R. Wilde, M.D. M.R.I.A.

Treasurer—R. P. Williams, M.R.I.A.

Secretaries—William Andrews, M.R.I.A. J. R. Dombrain, Esq.

The second meeting of this Society for this session was held on the 7th of April, when Edward Clibborn, Esq. read a paper on the Natural Causes of Combustion in Grasses, and of Phosphorescence in Animals.

Dr. Scouler read a paper on the Symmetrical Disposition of the Parts in Animals. He observed that the characteristic distinction between the animal and vegetable kingdoms consisted in the presence of a nervous system in the former, and its absence in the latter; he illustrated his paper by diagrams, and exhibited specimens of shells, seeds, plants, &c. to prove his position.

The third meeting of this Society was held at their rooms on Friday, the 12th of May, 1843,

W. J. HUGHES, C.E. M.R.I.A. in the Chair.

William Andrews, Esq. noticed a species of Molusc not heretofore found in this country, and he exhibited specimens of Lichens from the west of Ireland, stating that some of them have beautiful colouring matter, which, by a chemical examination, may be found to rival some of the foreign imported dyes. These subjects will be matter for future papers.

Mr. Moore presented to the Society a specimen of the Larvæ of Hepialis Virescens, with Sphœria Robertsii growing on it. He considered it one of the most singular freaks in the whole range of natural history—the growth of this plant upon a living animal. He stated that it had been long known that a few species of fungi are produced on the larvae and pupae of insects, one of which is said to commence its growth during the insect's life, and like other parasites, soon reduces the support to the last state of debility. He explained the opinions of Berkely, Colemo, and Hooker, on this interesting subject, and concluded by presenting the specimen to the museum of the society.

The nest of a long-tailed titmouse, Parus Candatus, was presented by Leslie Ogilby, Esq. It was fixed in the fork of a branch of the blackthorn, Prunus Spinosa; its structure is of great beauty. The specimen, which exhibits the peculiarities of this species from the rest of its tribe, is of great beauty of construction, and was brought from the Phœnix-park.

ROYAL DUBLIN SOCIETY.

THE Editor has received the following note from his brother, John Abell, of Limerick, on the subject of the New Hot-Houses about to be erected. He considers it very valuable, and has transmitted it to the Committee of Botany. It will make the houses more durable, useful, and valuable.

"I learned, on inquiry, whilst visiting the Botanic Gardens at Glasnevin a few days since, that it was intended that the *wooden* sash bars of the new range of Hot-houses should be made on the old plan, viz.—with an *uncapped* division between the panes of glass, which, by exposing the putty to the action of the weather, causes it, after some time, to shrink from the wood, and ultimately it produces a leak, alike destructive to the building and the plants. As I feel much interest in the prosperity of the Society's beautiful gardens, I wish to observe that the *new* mode is considered a great improvement, which is to have a weather-cover over the putty, formed of the upper part of the bar, extending on each side, thus forming a groove into which the glass is inserted, as done by Joseph Paxton, in erecting the great conservatory at Chatsworth, and sketched in the Gardiners' Chronicle for 1841—page 216, Fig. 1.

I have proof of this *mode* answering well in an iron roof erected nearly six years ago, in which the joints of the putty appear as close as when first glazed."

ROYAL ZOOLOGICAL SOCIETY OF IRELAND.

UNDERNEATH we give a report with which we have been furnished, of the Annual Meeting of the Zoological Society, as it must be interesting to the numerous members to find that their property is in so flourishing a state. We attended on the occasion; and having lately joined the Society, we therefore took particular notice of the animals, and are quite satisfied that the charge of under-feeding, which is so often brought against the Society is entirely without foundation. We never believed it, but on this occasion we examined for our satisfaction. Extreme fatness is not a sign of health, either in men or animals.

The annual meeting of the above society was held on the 2nd inst. in the Lecture-room in the Gardens, Phœnix Park.

S. BOILEAU, Esq., in the Chair.

Mr. Ball (the secretary) read the following report:—

"The council of the Royal Zoological Society of Ireland have, in accordance with practice, to report on their management and the progress of the society during their year of office—the thirteenth of the society's existence. It is with much satisfaction that they are enabled to state that, following the example of their immediate predecessors, they have by the most rigid economy reduced the debt which was due by the society when they entered upon their duties; and though they may complain, with some show of justice, of the inadequacy of public support received for some of the great objects of the society, they trust the fact, that its annual income has been found more than sufficient to meet its expenditure for the last two years, will convince those who doubted of its stability, while the details which follow will satisfy all of its increasing utility, and justify, if not demand, continued and increased support.

"It will be seen by the treasurer's account that the income of the society has been 999*l.* 14s. 5d., while its expenditure has been only 942*l.* 12s. 11d., showing a surplus on the year of 57*l.* 1s. 6d.; yet, while this saving has been made, considerable improvements have been effected in the gardens, as must be obvious to all who inspect them, and at the same time the collection has been increased. For it appears by a comparative statement that the society has gained in value of animals by donations, purchases, and births in the garden, 305*l.*, while it has lost by death 107*l.* only, leaving in favour of the society an increased value of the collection equal to 198*l.* It is right to add, however, in the above estimate, that some animals are included which, agreeable to the terms of purchase have not yet been paid for; deducting their price (81*l.*) there will still remain an increase of value equal to 117*l.*

"With respect to the progress of the society in the cultivation of science, the council have to state that immediately after the last annual meeting, a highly interesting course of lectures (extending to nineteen, was commenced at the gardens by Doctor Woodroffe, and though given at an hour found in practice to be inconvenient, a class averaging over seventy attended. Doctor Woodroffe has most kindly undertaken to give a second course, which is now in progress on Mondays and Thursdays at half-past three o'clock.

"There have been six evening meetings of the society this season, at which lectures were delivered by his Grace the Archbishop of Dublin, Doctor Kennedy, Professor Harrison, Doctor Corrigan, Professor Kane, and Doctor Woodroffe, to classes exceeding 500. The evening meetings appear to increase in popularity, have spread much valuable information, and have raised the character of the society. They were held in the Theatre of the Royal Dublin Society, which was freely and generously granted for the purpose, and Mr. Butt and Professor Longfield have promised lectures, which will conclude the course for this season.

"In the promotion of the art of drawing from life, the council last year informed the society that they had granted free admission to persons to study in the garden. The views then entertained have been since further carried out; and a few members of council having offered premiums for the best drawings, the exertions of some of the students of the Dublin Society's School were called forth, and on competition, premiums were adjudged, and have since been given, to Mr. John Robertson and Mr. William Dillon for drawings, which fully exemplified how much figures from living animals are superior to those made from museum specimens, and pointed out clearly the value of the plan adopted. Since the distribution of these premiums there has been a large increase of students, and there are now thirty pupils of the Dublin Society's Schools permitted access to the gardens. It has been proposed to extend the premiums and make various regulations for the promotion of drawing and modelling from the animals, but nothing definitive has been done. The subject is, however, recommended to the attention of a special committee of the council now to be elected, and with this view the council have been guided in submitting at least one of the names recommended for election to-day.

"The council, having adopted the plan of publishing their proceedings weekly in *Saunders's News-Letter*, do not feel it necessary to extend their report into the more minute details already before the public; but they cannot omit stating how much they are indebted to the kindness of the Editor of the paper in question, by whose aid the proceedings and lectures of the society are promptly and well put before the public.

"The council, in directing attention to the list of donations, wish to notice particularly the renewed instance of liberality displayed by the London Zoological Society, in the donation of a fine young Braminee bull and a cow and calf, which have been kindly brought from London by the Dublin Steam Packet Company free of charge. The council have pleasure in recording their sense of the manner in which Mr. Scott, the superintendant, has seconded and carried out their views of economy and improvement, and they much wish that the means of the society justified them in giving substantial proof of their estimation of his zeal and good conduct.

"The council would urge on their successors the prudence of following the course adopted for the last two or three years; that is, the endeavouring to raise the scientific character of the society, and facilitating access to its collection with all the freedom that the necessary attention to funds will permit. They would also desire to ask those who questioned the prudence of former councils in reducing the establishment and collection, to consider whether, with the feeble support then given, the accumulating debt and diminished visitors, the course adopted has not, by the result, proved a wise one, and saved the society from untimely dissolution, and whether the now increased and increasing usefulness of the society does not call for renewed support?

"Besides annexing the account and returns usually accompanying the reports of the society, there remains to your council but one duty to perform: it is, to give expression to their feelings on the loss zoological science and the society have had in one who for some years was a valuable member of your council, and had the society's interest much at heart. It is true, that the society has lost since its commencement many distinguished members, of whom no obituary notices have been given; but it can be no reflection on their memories to call your attention to the loss of one so especially connected with the objects of the society as was the late Dr. Macartney. By the cultivation of zoology and comparative anatomy he was led to emerge from country life, became a distinguished philosopher, and attained to fortune. The details of his progress have been so well, so feelingly, and so fully brought before the public in the report of the Council of the Royal Irish Academy, and in the address of the President of the College of Physicians, that your council find it unnecessary to repeat them: but they feel a melancholy gratification in paying their meed of respect (even in this cursory manner) to the memory of one who in elevating zoology was elevated by it. He has reared so enduring a monument of himself in the records of science, that your council can add nothing to it.

"The following is the treasurer's account:—

INCOME.		
Admission to Gardens		£517 4 5
Members' Subscriptions		364 0 0
Subscribers' Subscriptions		57 10 0
Admission Fees		21 0 0
Donation of Lord Lieutenant ..		10 0 0
		£999 14 5
EXPENDITURE.		
Provisions for Animals ..		£369 19 7
Paid for Animals ..	£71 13 5	
Received for ditto ..	12 14 6	
		58 18 11
Incidental this year ..	201 18 1	
Received for Sundries ..	10 4 8	
		191 13 5
Wages		284 1 0
Debenture paid off to Representatives of E. M'Donnel		25 0 0
Interest on Debentures		13 0 0
		£942 12 11

"There therefore appears a saving on the year of the sum of 57*l.* 1*s.* 6*d.* as before stated, reducing the balance existing against the society last year to 104*l.* 9*s.* 3½*d.*

"The admissions for the period included in account have been—Free, 3,448; full price, 9,396; children, 1,385; soldiers, 115; at 1d. each, 70,417; on Mr. Allen's tickets, 8: children of schools, 996; total, 85,765; to which may be added 4,001 who visited the gardens since Friday, giving a total, from the 1st of May, 1842, to the 1st of May, 1843, of 89,766, not including young children."

The following is the list of the council for the ensuing year:—

President—His Grace the Archbishop of Dublin.

Vice-Presidents—Sir P. Crampton, Bart; Sir Henry Marsh, Bart; A. Lyle, Esq. Second Remembrancer; J. Hart, Esq. M.D.; D. J. Corrigan, Esq. M.D.

Secretaries—R. Ball, Esq. and Hans Irvine, Esq. M.B.

Treasurer—T. Hutton, Esq.

Council—T. E. Beatty, Esq. M.D.; F. W. Burton, Esq; Isaac Butt, Esq; R. Callwell, Esq; L. Crosthwait, Esq; J. Egan. Esq; W. H. Gregory, Esq. M.P: E. Kennedy, Esq. M.D. Professor Longfield; Professor M'Cullagh; M. J. O'Kelly, Esq; Jacob Owen, Esq; Surgeon Porter; Surgeon Wilde; and J. Woodroffe, Esq. M.D.

From two to six o'clock a large number of visitors promenaded the gardens. The bands of the 4th Dragoon Guards and the 61st Foot were in attendance, and played several popular compositions. The day was most favourable, and these beautiful gardens looked to the best advantage. Shortly after four o'clock his Excellency Earl de Grey, attended by his staff, entered the gardens, and was received by some members of the society, by whom he was escorted through them. His Excellency appeared to be highly pleased with the internal arrangements of the gardens and took his leave before six o'clock.

So far from under feeding or neglect being chargeable to the Society, we are informed on the best authority, that no other collection in Europe loses so few animals. This fact has been ascertained by a statistical examination on this very subject. The object of universal favour was the beautiful gazelle, which the Society lately obtained. Its health is beginning to be re-established, and it is led about the garden daily, in order to insure to it a sufficient portion of exercise, without which it is not likely to retain its original activity. At the end of the proceedings we give a short account of this agile and beautiful tribe of animals.

THE GAZELLE.

In the courts of Asiatic kings, the gazelle is the object of even royal favour, as the personification of beauty, gentleness, and swiftness. It possesses such beautiful eyes that the Persian phrase, *aine el czazel, you have the eyes of the gazelle*, is used as an expression of admiration. Byron makes an elegant allusion to it in his celebrated Hebrew melody of—

"THE WILD GAZELLE.

"The wild gazelle on Judah's hills,
Exulting yet may bound,
And drink from all the living rills,
That gush on holy ground;
Its airy step and glorious eye,
May glance in tameless transport by.

"A step as fleet, an eye more bright,
Hath Judah witnessed there;
And o'er her scenes of lost delight,
Inhabitants more fair.
The cedars wave on Lebanon,
But Judah's statelier maids are gone.

"More blest each palm that shades those plains,
Than Israel's scattered race;
For taking root, it there remains,
In solitary grace:
It cannot quit its place of birth,
It will not live in other earth.

"But we must wander witheringly
In other lands to die,
And where our fathers ashes be,
Our own may never lie:
Our temple hath not left a stone,
And mockery sits on Salem's throne.

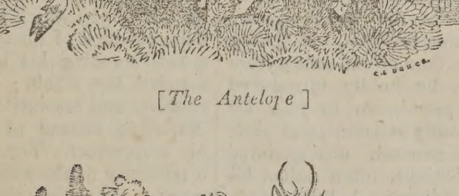
At the taking of Kittoor, in the East Indies, in 1821, a beautiful *white* antelope was found by the officers in the palace-yard. "I first caught sight of her," said an officer who has written an account of the expedition, "and exclaimed, that pretty creature is mine. Lieutenant D. (49th), one of our party, caught her, and appealed to the rest if his claim was not superior to mine, as the *captor*. We tossed up for her, and I won, but on sending for her after we left the fort, my boy came back and said a Bombay gentleman had claimed it, and taken it away. It was the manager of the rocket department, whose name I forget. He called at my place that day, and told me that he had *seen* the animal long before I claimed it, and was going to bring a servant to take it home at the time we were there. He referred me to witnesses of the fact, but I took his word for it, not being particularly anxious about it, and especially as he spoke of its being such a pretty pet for his wife when he should return to Bombay."

Professor Pallas describes the method of hunting the antelope, which is the principal amusement of the Tonguses, a people of Tartary, beyond Baikal. They choose for this purpose the level open tracts, situated near a mountain, a river, or a forest. In autumn, at which season their horses are most vigorous, they form companies of one hundred and fifty or two hundred hunters, all on horseback, attended by led horses. Each has a trained dog, and they are armed with bows and arrows. This chase commonly lasts several days. When arrived at the rendezvous, they send three or four sharp-sighted huntsmen before to get a view of the game from the heights or mountains, who stop to wait for their companions, as soon as they perceive the antelopes. When the troops come in sight, they are signaled and break into divisions, each hunter placing himself sixty or eighty fathoms from the other, so as to form a great ring. When the antelopes attempt to escape, the ring closes, terrifying them with their shouts and the whistling of their arrows, which for that purpose are furnished with a button of bone perforated beneath the head. In this manner they kill all that they can reach. The chase is more successful when the scene of it lies near a river or a mountainous forest, as the antelopes never take to the water, though long and furiously harassed, but rather strive to escape by sudden and vast leaps through the troops of their pursuers. They are almost equally shy of forests. They are no sooner hunted into a wood, than they are so bewildered among the trees as not to be able to move a hundred paces, but run their heads against every tree, and soon fall down breathless.

The speed of the antelope is such, that leopards and falcons are alone able to overtake it in India or Persia ; and it is said that the greyhound is left behind in the chase. The speed of Asahel, 2 Sam. xi. 18, is compared to that of the *tzebi*, which Shaw translates *antelope*, not *roe*, and the Gadites are said to be swift as the roes on the mountains.

Compelled by the heat and aridity of Terra-de-natal, flocks, perhaps of millions, occasionally come down on Caffraria, which they desolate, not leaving even a blade of grass. They are attended by multitudes of lions, hyenas, and other beasts of prey, which live on them as they proceed. The Hottentots call them the lions' flocks of sheep.

[*The Antelope*]



[*The Prong-horned Antelope.*]

Science and Literature.—As one of the objects of this Journal is to make it a useful depository for the literature and science of Ireland, we now present to our readers a list of the societies existing amongst us, as far as we recollect. We invite communications from the secretaries on their origin, objects, and progress.—

Archeological Society—For the publication o the ancient literature of Ireland.
Architects' Society.
Art-Union (Royal Irish).
Botanical Society.
Civil Engineers' Society.
Geological Society—Having for its object the dissemination of information, and the collection of specimens of geology. The society has a museum.
Historical Society.
Horticultural Society.
Microscopic Society.
Mechanics' Institute – Formed for the improvement of the working classes.
Natural History Society.
Royal Dublin Society—Its objects are, improvement in the arts, manufactures, and agriculture.
Royal Irish Academy—Formed for the advancement of literature
Royal Agricultural Society.
Royal Hibernian Academy—A society of artists (sculptors and painters).
Society of Artists—This society has opened the Institution in College-street with an exhibition of paintings.
Zoological Society.

Biography.

CAPTAIN COLQUHOUN GRANT.

The following extraordinary account of an English officer is given by Napier in his "History of the Peninsular War." It is recorded of Captain Colquhoun Grant, a gentleman of the highest courage, genius, and discretion, and may be classed amongst the most uncommon developments of human mind. He was highly valued by the Duke of Wellington, and was sent by him to penetrate Marmont's designs, when that marshal was concentrating his army on the Tormes in Portugal.

"Attended by Leon, a Spanish peasant of great fidelity and quickness of apprehension, who had been his companion on many former occasions of the same nature, Grant arrived in the Salamancan district, and passing the Tormes in the night, remained in uniform, for he never assumed any disguise, three days in the midst of the French camp. He thus obtained exact information of Marmont's objects, and more especially of his preparations of provisions and scaling ladders, notes of which he sent to Lord Wellington from day to day by his Spanish agents. However, on the third night some peasants brought him a general order, addressed to the French regiments, and saying, that the notorious Grant being within the circle of their cantonments, the soldiers were to use their utmost exertions to secure him, for which purpose also guards were placed, as it were, in a circle round the army.

Nothing daunted by this news, Grant consulted with the peasants, and the next morning before daylight, entered the village of Huerta, which is close to a ford on the Tormes, and about six miles from Salamanca. Here there was a French battalion, and on the opposite side of the river, cavalry videttes were posted, two of which constantly patrolled back and forward for the space of three hundred yards, meeting always at the ford. When day broke, the French battalion assembled on its alarm-post, and at that moment Grant was secretly brought with his horse behind the gable of a house which hid him from the infantry, and was opposite to the ford. The peasants standing on some loose stones and spreading their large cloaks, covered him from the cavalry videttes, and thus he calmly waited until the latter were separated, the full extent of their beat; then putting spurs to his horse he dashed through the ford between them, and receiving their fire without damage, reached a wood not very distant, where the pursuit was baffled, and where he was soon rejoined by Leon, who, in his native dress, met with no interruption.

Grant had already ascertained that the means of storming Ciudad Rodrigo were prepared, and that the French officers openly talked of doing so, but he desired still further to test this project, and to discover if the march of the enemy might not finally be directed by the pass of Perales, towards the Tagus; he wished also to ascertain more correctly their real numbers, and therefore placed himself on a wooded hill, near Tamames, where the road branches off to the passes, and to Ciudad Rodrigo. Here lying perdue until the whole French army had passed by in march, he noted every battalion and gun, and finding that all were directed towards Ciudad, entered Tamames after they had passed, and discovered that they had left the greatest part of their scaling-ladders behind, which clearly proved that the intention of storming Ciudad Rodrigo was not real. This it was which allayed Wellington's fears for that fortress.

When Marmont afterwards passed the Coa in this expedition, Grant preceded him, with intent to discover if his further march would be by Guarda upon Coimbra, or by Sabugal upon Castella Branca; for to reach the latter it was necessary to descend from a very high ridge, or rather succession of ridges, by a pass at the lower mouth of which stands Penamacor. Upon one of the inferior ridges in the pass, this persevering officer placed himself, thinking that the dwarf oaks, with which the hills were covered, would effectually secure him from discovery; but from the higher ridge above, the French detected all his movements with their glasses; in a few moments Leon, whose lynx-eyes were always on the watch, called out, 'the French, the French!' and pointed to the rear, whence some dragoons came galloping up. Grant and his follower instantly darted into the wood for a little space, and then suddenly wheeling, rode off in a different direction; yet at every turn new enemies appeared, and at last the hunted men dismounted and fled on foot through the thickest of the low oaks; but again they were met by infantry, who had been detached in small parties down the sides of the pass, and were directed in their chase by the waving of the French officers' hats on the ridge above. At last Leon fell exhausted, and the barbarians who first came up killed him in despite of his companion's entreaties.

Grant himself they carried without injury to Marmont, who receiving him with apparent kindness, invited him to dinner. The conversation turned upon the prisoner's exploits, and the French marshal affirmed that he had been for a long time on the watch, that he knew all his haunts and his disguises, and had discovered that only the night before he had slept in the French head quarters, with other adventures, which had not happened, for this Grant never used any disguise, but there was another Grant, a man also very remarkable in his way, who used to remain for months in the French quarters, using all manner of disguises; hence the similarity of names caused the actions of both to be attributed to one, which is the only palliation for Marmont's subsequent conduct.

Treating his prisoner, as I have said, with great apparent kindness, the French general exacted from him an especial parole that he would not consent to be released by the Partidas, while on his journey through Spain to France, which secured his captive, although Lord Wellington offered two thousand dollars to any guerilla chief who would rescue him. The exaction of such a parole, however harsh, was in itself a tacit compliment to the man; but Marmont also sent a letter with the escort, to the governor of Bayonne, in which, still labouring under the error that there was only one Grant, he designated his captive as a dangerous spy, who had done infinite mischief to the French army, and whom he had only not executed on the spot out of respect to something resembling an uniform which he wore at the time of his capture. He therefore desired that at Bayonne he should be placed in irons, and sent up to Paris.

This proceeding was too little in accord with the honour of the French army to be supported, and before the Spanish frontier was passed, Grant, it matters not how, was made acquainted with the contents of the letter. Now, the custom of Bayonne, in ordinary cases, was for the prisoner to wait on the authorities, and receive a passport to travel to Verdun, and all this was duly accomplished; meantime the delivery of the fatal letter being by certain means delayed, Grant, with a wonderful readiness and boldness, resolved not to escape towards the Pyrenees, thinking that he would naturally be pursued in that direction. He judged that if the governor of Bayonne could not capture him at once, he would for his own security, suppress the letter, in hopes the matter would be no further thought of; judging, I say, in this acute manner, he on the instant inquired at the hotels if any French officer was going to Paris, and finding that General Souham, then on his return from Spain, was so bent, he boldly introduced himself, and asked permission to join his party. The other readily assented, and while thus travelling, the general, unacquainted with Marmont's intentions, often rallied his companion about his adventures, little thinking that he was then himself an instrument in forwarding the most dangerous and skilful of them all.

In passing through Orleans, Grant, by a species of intuition, discovered an English agent, and from him received a recommendation to another secret agent in Paris, whose assistance would be necessary to his final escape; for he looked upon Marmont's double dealing, and the expressed design to take away his life, as equivalent to a discharge of his parole, which was moreover only given with respect to Spain. When he arrived at Paris he took leave of Souham, opened an intercourse with the Parisian agent, from whom he obtained money, and by his advice avoided appearing before the police to have his passport examined. He took a lodging in a very public street, frequented the coffee-houses, and even visited the theatres without fear, because the secret agent, who had been long established, and was intimately connected with the police, had ascertained that no inquiry about his escape had been set on foot.

In this manner he passed several weeks, at the end of which the agent informed him that a passport was ready for one Jonathan Buck, an American, who had died suddenly on the very day it was to have been claimed. Seizing this occasion, Grant boldly demanded the passport, with which he instantly departed for the mouth of the Loire, because certain reasons not necessary to mention, led him to expect more assistance there than at any other port. However, new difficulties awaited him, and were overcome by fresh exertions of his surprising talents, which fortune seemed to delight in aiding.

He first took a passage for America in a ship of that nation, but its departure being unexpectedly delayed, he frankly explained his true situation to the captain, who desired him to assume the character of a discontented seaman, and giving him a sailor's dress and forty dollars, sent him to lodge the money in the American consul's hands, as a pledge that he would prosecute the captain for ill usage, when he reached the United States; this being the custom on such occasions, the consul gave him a certificate which enabled him to pass from port to port as a discharged sailor seeking a ship.

Thus provided, after waiting some days, Grant prevailed upon a boatman, by a promise of ten Napoleons to row him in the night towards a small island, where, by usage, the English vessels watered unmolested, and in return permitted the few inhabitants to fish and traffic without interruption. In the night the boat sailed, the masts of the British ships were dimly seen on the other side of the island, and the termination of his toils appeared at hand, when the boatman, either from fear or malice, suddenly put about and returned to port. In such a situation, some men would have striven in desperation to force fortune, and so have perished; the spirits of others would have sunk in despair, for the money which he had promised was all that remained of his stock, and the boatman, notwithstanding his breach of contract, demanded the whole; but with inexpressible coolness and resolution, Grant gave him one Napoleon instead of ten, and a rebuke for his misconduct. The other having threatened a reference to the police, soon found that he was no match in subtlety for his opponent, who told him plainly that he would then denounce him as aiding the escape of a prisoner of war, and would adduce the great price of his boat as a proof of his guilt.

This menace was too formidable to be resisted, and Grant in a few days engaged an old fisherman who faithfully performed his bargain; but now there were no English vessels near the island; however, the fisherman cast his nets and caught some fish, with which he sailed towards the southward, where he had heard there was an English ship of war. In a few hours they obtained a glimpse of her, and were steering that way when a shot from a coast battery brought them to, and a boat with soldiers put off to board them; the fisherman was steadfast and true; he called Grant his son, and the soldiers, by whom they expected to be arrested, were only sent to warn them not to pass the battery, because the English vessel they were in search of was on the coast. The old man, who had expected this, bribed the soldiers with his fish, assuring them he must go with his son or they would starve, and that he was so well acquainted with the coast, he could always escape the enemy. His prayers and presents prevailed; he was desired to wait under the battery until night, and then depart; but, under pretence of arranging his escape from the English vessel, he made the soldiers point out her bearings so exactly, that when the darkness came, he ran her straight on board, and the intrepid officer stood on the quarter-deck.

After this, Grant reached England, and obtained permission to choose a French officer of equal rank with himself to send to France, that no doubt might remain about the certainty of his escape; and great was his astonishment to find in the first prison he visited, the old fisherman and his real son, who had meanwhile been captured notwithstanding a protection given to them for their services. Grant, whose generosity and benevolence were as remarkable as the qualities of his understanding, soon obtained their release, and having sent them with a sum of money to France, returned himself to the Peninsula, and within four months from the date of his first capture, was again on the Tormes watching Marmont's army! Other strange incidents of his life I could mention, were it not more fitting to quit a digression already too wide; yet I was unwilling to pass an occasion of one adventure of this generous and spirited, and yet gentle-minded man, who having served his country nobly and ably, in every climate, died not long since, exhausted by the continual hardships he had endured.

Poetry.

THE CORAL GROVE.

Deep in the wave is the Coral grove,
Where the purple mullet and gold-fish rove,
Where the sea-flower spreads its leaves of blue,
That never are wet with the falling dew,
But in bright and changeful beauty shine,
Far down in the green and glassy brine.
The floor is of sand, like the mountains drift,
And the pearl-shells spangle the flinty snow;
From coral rocks the sea-plants lift
Their boughs, where the tides and billows flow.
The water is calm and still below,
For the winds and waves are absent there,
And the sands are bright as the stars that glow
In the motionless fields of upper air.
There, with its waving blade of green,
The sea-flag streams through the silent water,
And the crimson leaf of the dulse is seen
To blush like a banner bathed in slaughter.
There, with a light and easy motion,
The fan-coral sweeps through the clear deep sea;
And the yellow and scarlet tufts of ocean,
Are bending like corn on the upland lea.
And life, in rare and beautiful forms,
Is sporting amid those bowers of stone,
And is safe, when the wrathful spirit of storms,
Has made the top of the wave his own:
And when the ship from his fury flies,
Where the myriad voices of ocean roar,
When the wind-god frowns in the murky skies,
And demons are waiting the wreck on shore;
Then, far below, in the peaceful sea,
The purple mullet and gold-fish rove,
There the waters murmur tranquilly,
Through the bending twigs of the coral grove.—PERCIVAL.

Agriculture.

GUANO.

SINCE our last number we heard it cooly asserted respecting this valuable manure, that it must be a natural production, as it would be impossible for birds to produce such vast quantities. We now present to our readers a further interesting account, which we think will set the matter at rest. In the calculation made at the latter end as to the quantity daily deposited, the writer states that as much more, namely, fifteen tons, is allowed for evaporation. Thus, in one thousand years, and it might as well be calculated for two or three thousand years, or for two or three million birds, we have about five and a half million tons of manure, and this supply is still kept up.

"The Moro of Arica is situated close to the town, on the south, and is a bold promontory projecting towards the sea, its base being washed by the surf of the Pacific Ocean, and its summit being about six hundred feet above it. This Moro presents a precipice nearly perpendicular, with numerous cliffs or ledges, which during ages have been occupied by myriads of sea fowl, called Garra by the Spaniards, but better known by the Peruvian name, *Guano*, a term which is also used by the Indians for the dung of these birds. The front of the Moro of Arica is a most conspicuous and important object to mariners who wish to call there; for when vessels coming from the south or windward, as it is there called, are allowed by those on board to pass the port, the space gone over in a few hours may be such as to require several days to beat up again to the roadstead. But in consequence of Guanos nestling on the face of the Moro, it has a white appearance, from the accumulation of their droppings, which when recent and dry, as it always is in that locality, is of a grey white colour, and serves both as a beacon to the navigator who approaches the place, and also as a magnificent object, when seen under the rays of the setting sun. The dung of the Guano has been used for manure by the Peruvians from time immemorial, and is highly prized by them on account of its fertilizing properties, which are very great. I have seen some of these inoffensive beings, who had come several hundred miles, having traversed ravines and tracks over all but impassible mountains, each one with his donkey or llama, for a quintal of Guano, with which he had to march back again, trudging on foot, and often rejoicing over his odorous cargo. The Guanos were still to be seen in vast numbers on the Moro of Arica during my first residence there in 1826, but not in such abundance as they were a few years prior to that period; for during the war for independence, Arica was several times attacked both by sea and land, when the cannonading had the effect of scaring the Guanos from their haunts on the Moro. Since 1826, Arica has been much frequented by foreigners, some of whom often fired at, and otherwise annoyed these birds, which now have all but totally abandoned that part of the Peruvian coast. The Guanos have hitherto existed on the coast of Peru in numbers which would appear incredible except to those persons who have seen them. The greatest mass of Guanos I ever saw was in 1830, at the Chincha Isles, which are only barren rocks in the Pacific Ocean, off Pisco, and about one hundred miles south from Callio. I saw the birds through a glass from on board a vessel under easy sail, when the rock appeared to be a living mass; for the Guanos seemed to be contending among themselves for a resting place. They live on fish, and are expert fishers, for which they are beautifully formed by nature. The bill is three or four inches long, according to the age or size of the bird, and it is about one inch broad at the extremity, much curved, and altogether well adapted for hooking up the food, which rarely escapes. The quantity of Guano manure accumulated on the Peruvian coast, supposing the birds to amount to one million, would be about fifteen tons per day."—*Dr. Mathie Hamilton's Communication to the Edinburgh Philosophical Journal.*

NORTH AMERICAN PINES.

ON observing the immense squared trunks of timber, in the act of being conveyed through our city from the places of shipping, to the various timber yards, for the purpose of being cut up, and used for the multifarious and important domestic purposes which this indispensable material is calculated for, reflecting minds must sometimes be impressed with the original grandeur of those noble denizens of the forest, before they were shorn of all their ornamental appendages, and made ready for the measuring line to be applied, in order to calculate every inch of useful timber they contain. It would, however, be fallacious reasoning to suppose those trees ever occupied a proportionate space in their circumference, that trees anything like half their magnitude do in Britain, where they are generally thinned out sufficiently well, to afford the side branches room to spread; which is not often the case in their natural forests, where they generally occur in close masses, the stronger out-growing the weaker, and supporting each other, which is the principal cause of the production of those long, straight and slightly tapering trunks that we see brought to this country; and their being so free from knots, is also owing to their growing so closely together, thereby excluding the air to a great extent, which prevents the leaves on the side branches from performing their natural functions; the latter die and drop off before they have yet attained to an injurious size; and, those decayed branches and leaves are again converted into a further useful purpose. On falling to the ground, decomposition takes place, when their component parts undergo chemical changes, which, mixing with other extraneous matter, form a soil, affording considerable nourishment to the trees which had already cast them off. Although the Pine tribe are generally gregarious, they also occur by themselves in open spaces, where their grandeur is seen to the fullest extent. The late Mr. Douglas (through whom so many of the fine species have lately been introduced to Britain) states, that he saw some of them attain a height of 140 and 150 feet, with trunks 16 to 20 feet in circumference, clothed with branches to the ground, and producing cones from nine inches to nearly a foot in length, which is the case with Pinus Coulteri. This tribe, considered either on account of the effect they produce on our domestic economy, on our landscape scenery, or for their botanical anomaly, are, no doubt, the most important among our forest trees. The seeds of a few of them are eaten by the inhabitants of those countries where they grow; and no articles are in more general use than tar, pitch, turpentine, and rosin, which are their products. Besides, they afford employment to a great number of persons from the time of the cutting of the trees until the wood is converted into the many useful purposes for which it is so admirably adapted, both on account of its texture and durability. In botanical characters, they partake to some extent of both of the great classes which comprise all *exogenous* and *endogenous* plants, for in no instance are the annular layers of deposited wood, better marked than in the stems of Pines, which is so prominent a character of exogenous vegetables; whilst, on the other hand, the veins of the leaves run in parallel series, which is equally characteristic of the endogenous; besides, their imperfectly vascular texture and absence of a proper ovarium, are remarkable instances. In extensive lawns or parks, what can be more imposing than a finely-formed old silver fir, in the way of trees, or when grouped or planted with other deciduous trees. The effect they produce is at once striking and pleasing, especially in winter, when other trees are denuded of their leaves. Were a tasteful distribution of even the common kinds attended to in laying out plantations and pleasure grounds, not only an imposing effect might be produced, but a kind of evergreen appearance kept up throughout the year, along with the warmth they afford in such situations. Yet, strange to say, it is only within the last twenty years that Pines have been generally planted for any other studied objects than remuneration and shelter. Now they are very generally planted for effect alone, for which purpose their variety and beauty are such, as to bid fair, at no very distant period, to make a complete alteration in our park scenery, since it is found that many of those which grow on elevated situations, both in Mexico and on the great range of the Himalaya mountains, prove sufficiently hardy to withstand the rigours of our severest winters.

In Ireland, the finest collection of Pines formed, were those in the Royal Dublin Society's Botanic Gardens, at Glasnevin. Some of the specimens are now considered equal to any others of the same kinds in Britain; but the smallness of space allocated for this beautiful family, did not permit of the collection being so much augmented as would have been desirable, until lately, when public attention, as well as taste, has become so general for those plants, and so many new species are introduced, that it has been found necessary to clear out an additional piece of ground, for the purpose of forming a new Pinetum; and during the last two years, young plants of nearly the whole of the species hitherto introduced into Britain, have been produced and planted. Some of these are extremely rare, and valuable, such as Pinus *nobibis*, P. *amabilis*, P. *grandis*, P. *insignis*, P. *religiosa*, P. Coulteri, P. Lubini, P. Douglasi, P. *Ponderosa*, along with many others. D.

Precepts for Farmers.—"Regard all persons whose time and labour are wholly at your command, as beings for whose health, comfort, and good conduct in this life, you will be held most fearfully responsible in the life to come.

"Value as you ought the experience of others, and your own will cost you far less than without such aid; since to use theirs costs only an effort of memory, whereas the price of your own will often be the loss of health, fortune, and character. Leave show to spendthrifts and fools, while you and your families consult only tasteful simplicity, comfort and usefulness in all your arrangements and expenses.

"The only just means of increasing wealth are constant industry, true economy of time as well as money, well-directed labour, and the regular application of a portion of your fair profits to increase your capital. Never expect your lands to give you much if you give them little; nor to make you rich if you make them poor. Therefore, always manure them to the full extent of your means, and they will ever make you ample returns in rapidly increasing productions.

"In all your farming operations, never forget that time, like money, if once lost or mis-spent, is for ever past recovery.

"Constantly arrange beforehand the daily work of your farms; then none of your labourers need ever be idle in waiting to be told what he has to do.

"Keep double sets of such instruments as are most used, and most exposed to wear and tear. The whole cost of extra sets will be amply repaid by saving the time lost in waiting for repairs where only single sets are kept.

"To keep good gates and fences, save much time and labour in preventing trespasses; much loss of crops from depredations; and best of all, it saves much wrangling and ill-will among neighbours about mischievous stock.

"If you wish to excel in your profession, the diligent culture of your mind is as indispensable as that of your fields.

"Encourage, both by precept and example, the true spirit of husbandry; for it promotes harmony, good-will, and social intercourse among all with whom you deal; it tends to elevate your own class to its proper rank; and, above all, it advances the welfare of your country, by promoting the most important of her great interests."—*Albany Cultivator.*

To prevent the ravages of Caterpillars.—Place bags of sulphur on sticks, about eighteen inches high, amongst all the cabbage tribe, on the first appearance of the yellow or spring butterfly. This will prevent them from laying their eggs, as they dislike the effluvia of the sulphur. To preserve gooseberry and other trees, strew sulphur over them.

Productiveness of the Vine.—Mr. John Mearns, F.H.S., curator of the Leeds Zoological and Botanical Gardens, in a recently published book on the "Pot-Culture of the Grape," says—"I have had berries of the black Tripoli kind frequently above two inches in girth, and perfectly formed. A good sized bunch of some of the best sorts will weigh from one to four pounds; but bunches of the Syrian grape have been grown that have weighed forty pounds, and in this country, from ten to nineteen pounds weight. A single vine in a large pot, or grown as a dwarf standard, in the manner practised in the vineyards in the north of France, generally produces from three to nine bunches; but Mr. Loudon observes, that by superior management in gardens in England, the number of branches is prodigiously increased, and that one plant of the red Hamburgh sort, in the vinery of the royal gardens at Hampton Court, has produced 2200 bunches, averaging one pound each, or in all nearly a ton. That at Valentine's in Essex (*its parent,*) has produced 2000 bunches, of nearly the same average weight."

Ireland.

A LEAF FROM MY NOTE-BOOK.

We present our readers with a short extract on an interesting national subject, although it appeared in another form when it was first taken in 1840. Our object is to collect as many facts as possible connected with Ireland, and we are principally induced to record the note, by being informed that it was taken, without any ceremony, just after it first appeared, by an English engineer, and published as part of *his* report of his visit to Ireland:—

Within a few months after the quarrel took place with Naples about her sulphur, vast depositories of that useful combustible were discovered in the Avoca mountains, near the "Meeting of the Waters," which probably will be found sufficient to supply the whole demand for the British empire. It is combined with iron, and is also called iron pyrites, or mundic, but is not in a volcanic state. At present I believe that it supplies one-third of the demand, which may be about 90,000 tons annually, of pure sulphur; and when the works shall be extended, I think that it can supply the whole. We may then permit the ungrateful and faithless King of Naples to cheat some less powerful ally. Such depositories of sulphur will readily take fire at the increased temperature of the earth, as we descend, and easily account for volcanic eruptions which cause such tremendous catastrophes. Nor need we wonder at such an event, when for every fifty feet which we descend, the thermometer rises one degree on an average: so that, allowing sixty degrees as the mean temperature, at the surface, and multiplying the remaining hundred and fifty-two (which remains up to two hundred and twelve, the heat of boiling water) by fifty feet, we shall have 7,600 feet, at which depth all the water in the earth is supposed to be boiling. The French government has caused an opening to be made near Paris, at present I believe 1000 feet deep, on their way down to solve the problem. Below the depth of 7600 feet must exist an eternal fire. After leaving Arklow, I proceeded to the wooden bridge in the Vale of Avoca, and thence to the region of the gold mines, which are now worked on trial by a friend of mine. Government has granted all the gold which may be found there to a company for twenty-one years, and this is the commencement. There are fifty men at work in two or three ravines, where a great flood evidently once swept down the gold, mingled with rocks, pebbles, and clay. The source whence it came is probably in this district. It is found purest and generally flattened amongst the debris On examining with a microscope the sand left in the bowls after washing, I found it to consist of gold dust in particles so small, that the eye could not detect some of them, crystals of transparent quartz, tourmalines, and many other curious stones, together with what appears to be grain tin. In every bowl which I examined there were several grains of metallic shot, coated with an oxide, showing that the sportsman considers this a favourite mountain. In a working commenced only three days before, a piece of gold worth 15s. was found. I had a piece which was found here some time since, weighing eighteen sovereigns. About £10,000 worth of gold was found in the ravines by the peasants, in the first two months after the discovery; and during the short time that the government worked them, about £3,700 worth was obtained. The mineral as well as the intellectual wealth of Ireland appears to have been celebrated at a very early date. Donatus, Italian bishop of Etruria, who died there in 840, alluded to it a thousand years ago, in a Latin poem, which may be thus translated :—

'Far westward lies an isle of ancient fame,
By nature blest, and Scotia* is her name.
An island rich; exhaustless is her store
Of veiny silver, and of golden ore.
Her fruitful soil for ever teems with wealth,
With gems her waters, and her air with health.
Her verdant fields with milk and honey flow;
Her woolly fleeces vie with virgin snow;
Her waving furrows float with bearded corn;
And arms and arts her envied sons adorn.
No savage bear with lawless fury roves;
No ravening lion through her sacred groves.
No poison there infects, no scaly snake
Creeps through the grass, nor toad, amongst the lake.
An island worthy of its pious race,
In war triumphant, and unmatched in peace.'

I visited all the mines in this district, and at Connoree obtained some specimens of beautiful pure copper, deposited by the water on old pieces of iron, previously put in for this purpose. The iron is generally dissolved, leaving an incrustation of metallic copper of the same shape as the original iron. I got one shaped liked a bolt; also some well shaped crystals of sulphate of copper, deposited by the water I think that an excursion up through Glenmalur is necessary to complete the tour of this part of the county Wicklow. I do not remember any thing of the kind bolder, either in the Highlands of Scotland or in Westmorland. A car can be got at the Avoca inn, and the inn at Glenmalur has been lately re-opened by an attentive and obliging landlord, with the poetic name of Lavender. The miners in the glen do not possess as many good specimens as formerly. I obtained one fine piece of crystalized phosphate of lead, and some amorphous quartz."—EDITOR.

LULLABY.

FROM A MOTHER TO HER CHILD.

(*From the ancient Irish.*)

The sun in Heaven his course has set,
 And on earth's bosom gently sleeps;
The Zephyrs sigh their fond regret,
 And stilly night her vigil keeps.
The silvery moon-beam soft reclines,
 On ocean's blue and cooling wave;
And o'er the pearly deep she shines,
 Where golden sands the waters lave,
  Then sleep, my child, my darling child,
  Hushed on my breast, where love hath smiled,
   My sweet, my beauteous flower,
   Nerve of my heart, in peace recline,
   Sweet rose-bud of my hopes! I'll twine
   A wreath to grace thy brows, but thine
   That mantles on thy cheek shall shine
    A sweeter, lovelier flower.

The infant morn in peace reposes,
 And sleeps the world in darkness yet;
The twilight dreams on beds of roses,
 Such dreams as joy and love beget.
On yon dark mountains bathed in night,
 The dewy eve in silence rests;
Dimmed are its beams of golden light,
 Awaiting morning's high behests.
  Then sleep, my child, &c &c.

The winds are hushed, nor longer whirl
 The seaman o'er the eddying deep:
Nor fright the sad and love-lorn girl,
 Who looks from yonder tower to weep.
Like watch-fires on the dark-blue sea,
 Pillowed on clouds the stars are keeping,
Their midnight vigils silent way,
 Through Heaven's bright arch, like beauty sleeping.
  Then sleep, my child, &c. &c.

The mists that in the valleys wait
 For morning's call to mount the sky;
When sings the sky-lark to his mate,
 Still slumbering in the valleys lie.
Beneath the shadowy trees reposing,
 The beauteous lake delights no more;
Soft echo with sweet music closing,
 Now rests in peace with the silent oar.
  Then sleep, my child, &c. &c.

The flowers that beauty's path adorn,
 Now bathed in dews which Heaven distils,
And rich in the golden hues of morn,
 Are sleeping in peace on yonder hills.
No more the wild bird's warbling notes
 Beguile the pensive traveller's way,
No more their artless music floats,
 An offering to the Star of Day.
  Then sleep, my child, &c. &c.

The tear sleeps on the cheek of sorrow,
 And holds its briny way no more;
'Till pain and grief will wake to-morrow,
 And break the heart they touched before.
But thine is not the sleep of tears,
 Young smiling life and joy are round;
And artless innocence that fears
 No wrong on earth's enchanted ground.
  Then sleep, my child, &c. &c.

May angels guard thy gentle slumbers
 My lovely child at midnight hour;
And with their harp's celestial numbers.
 Delight thy dreams, my beauteous flower.
And ne'er may grief from Heaven descending.
 With tear-drops stain thy youthful bloom;
'Till life's last shadowy twilight ending,
 Thy pilgrim's footsteps tread the tomb,
  Then sleep, my child, &c. &c.

JOSHUA ABELL.

Biblical Literature.

THE PRESENT AUTHORISED VERSION.

A RESOLUTION was formed, in consequence of a request made by Dr. Reynolds, head of the Nonconformist party, to King James I. in the Conference held at Hampton Court, 1603, that a new translation, or rather a revision of what was called the Bishop's Bible, printed in 1568, should be made. Fifty four translators, divided into six classes, were appointed for the accomplishment of this important work. Seven of these appear to have *died* before the work commenced, as only forty-seven are found in Fuller's list. The following conversation passed at the conference.

Dr. REYNOLDS.—"May your Majesty be pleased that the Bible be new translated, such as are extant not answering the original?" Here he gave a few examples.

BISHOP OF LONDON.—"If every man's humour might be followed there would be no end of translating."

The KING.—"I profess I could never yet see a Bible well translated in English; but I think that of all, that of Geneva is the worst. I wish some special pains were taken for an uniform translation, which should be done by the best learned in both universities, then reviewed by the bishops, presented to the *privy council*, lastly ratified by royal authority, to be read in the whole church, and no other."

Amongst the rules to be observed by the translators were the following :—

8. Every particular man of each company to take the same chapter, or chapters; and having translated, or amended them severally by himself, where he thinks good, all to meet together, confer what they have done, and agree for their part what shall stand.

9. As any one company hath dispatched any one book in this manner, they shall send it to the rest to be considered of seriously and judiciously; for his Majesty is careful in this point.

10. If any company, upon review of the book so sent, shall doubt or differ upon any places, to send them word thereof, note the places, and therewithal send their reasons: to which, if they consent not, the difference to be compounded at the general meeting, which is to be of the chief persons of each company, at the end of the work.

11. When any place of special obscurity is doubted of, letters to be directed by authority, to send to any learned in the land, for his judgment in such a place.

12. Letters to be sent from every bishop to the rest of his clergy, admonishing them of this translation in hand; and to move and charge as many as, being skilful in the tongue have taken pains in that kind, to send his particular observations to the company, either at Westminster, Cambridge, or Oxford.

13. The directors in each company to be the Deans of Westminster and Chester for that place; and the King's Professor in Hebrew and Greek in each university.

"And now after long expectation and great desire," says Fuller, "came forth the new translation of the Bible (most beautifully printed) by a select and competent number of divines appointed for that purpose, not being too many, lest one should trouble another; and yet many, lest many things might haply escape them. Who neither coveting praise for expedition, nor fearing reproach for slackness, (seeing in a business of moment none deserve blame for convenient slowness;) had expended almost three years in the work, not only examining the channels by the fountain, translations with the original, which was absolutely necessary, but also comparing channels with channels, which was abundantly useful in the Spanish, Italian, French, and

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* We know that Ireland was sometimes called Scotia, and every thing related in the poem is true of Ireland.

Dutch (German) languages. These, with Jacob rolled away the stone from the mouth of the well of life, so that now, even Rachael's weak women may freely come to drink themselves, and water the flocks of their families at the same.

"Leave we then those worthy men gathered to their fathers and gone to God, however they were requited on earth, well rewarded in heaven for their worthy work. Of whom as also of that gracious king that employed them, we may say wheresoever the Bible shall be preached or read in the whole world, there shall also this that they have done be told in memorial of them."

"Those who have compared most of the European translations with the original, have not scrupled to say, that the *English translation of the Bible, made under the direction of King James I. is the most accurate and faithful of the whole.* Nor is this its only praise: the translators have seized the very *spirit* and *soul* of the original, and expressed this almost everywhere with pathos and energy. Besides, our translators have not only made a *standard translation*, but they have made the translation *the standard of our language*; the English tongue in their day was not equal to such a work, "*But God enabled them to stand as upon Mount Sinai, and crane up their country's language to the dignity of the originals, so that after the lapse of two hundred years, the English Bible is, with very few exceptions, the standard of the purity and excellence of the English tongue. The original from which it was taken, is, alone, superior to the Bible translated by the authority of King James.*" "This is an opinion in which my heart, my judgment, and my conscience coincide."

The above remarkable testimony to the value of the authorised version is from the pen of Doctor Adam Clarke, perhaps the highest authority of modern times. The latter part marked *in italics*, is from the writings of an eminent Roman Catholic lady, who, amongst her other extraordinary attainments, was also a profound Hebrew scholar. Dr. Clarke was well acquainted with her, and esteemed her very highly. She was translator of *foreign mails* to the *Public Advertizer* newspaper from 1754 to 1759. *Eleven thousand copies a day were printed*, and Alexander Cruden, the author of the "Concordance," was the corrector of the press.

In the life of Dr. Clarke is the following interesting and honourable record of this eminent person:—"Miss Mary Freeman Shepherd was an Englishwoman by birth, though descended, on the maternal side, from the ancient and noble house of the Fallæti of Piedmont, formerly sovereign princes in Italy. She had been educated in a convent in Rome, and was a strict Roman Catholic. Seldom has it fallen to the lot of either man or woman to possess so strong a mind as that of Miss Shepherd; her knowledge of languages was extensive, and her perception of their beauties acute; her acquaintance with general literature was more than ordinarily great, and she was as fond of imparting knowledge, as she was of acquiring it, possessing at the same time, that enthusiasm of spirit, and delightful facility of expression which called forth the latent taste in her auditors, or created it, if it did not previously exist. When she chanced to entertain a partiality for any young persons, she possessed a remarkable power of attaching them to her."

On Truth,—It is the privilege of *Truth* that although ancient as the "Ancient of Days," yet with undimmed eye and unabated strength, she retains in her lovely complexion all the freshness and bloom of the May-day of youth. Time takes not from but adds to her charms the dignity that commands respect; the awful majesty that infuses veneration even from the rebellious and disobedient. In whatsoever garment clad, however coarse and homely, she is herself ever beautiful as the blessed sun; from the dark clouds of the expanse she bursts forth and spreads the glorious light all around her. As she walks over the hollow caverns of falsehood, the hollow caverns of falsehood, loud echoing to the footsteps of truth, proclaim *hollowness* and *emptiness*. She is one, as God is one; and even *Babel's* workmen and high tower have not confounded her language.—Mary Freeman Shepherd.

Peace.

What can be frailer, more transitory, more exposed to misery, than human life? I dwell not on the great variety of diseases, disasters, accidents, fatal calamities, pestilential sicknesses, lightning, earthquakes, conflagrations, inundations, and other evils which overwhelm it without limit and without number. Yet, among all the miseries by which man is infested, there is not one more malignant, more mischievous than war: not one that, like war, does more harm to the morals of men, than even to their property and persons. It is, indeed, a less injury to deprive me of my life than of my innocence. Nor is war at all the less detestable, because the greatest portion of its evils falls on the poor and low; on the farmer, on the manufacturer, or the wayfaring man. Our Lord Jesus Christ shed his blood for the redemption of these men, despised as they are, no less than for the redemption of kings. And when we shall stand before the judgment-seat of Christ, where the most powerful lords of this world must shortly stand, that impartial judge will require a no less strict account to be given of those poor and despised ones, than of despots and grandees. Therefore they who deem it a trifling loss and injury when the poor and the low are robbed, afflicted, banished, burnt out, oppressed or put to death, do in truth accuse Jesus Christ (the wisdom of the Father) of folly, for shedding his blood to save such wretches as these.

Christ, throughout his whole life, displayed the character of a Saviour, a Comforter, a universal benefactor. Whether in the temple or the synagogue, whether in public or in private, whether in a ship or in the wilderness, he taught the multitude, he healed the sick, he cleansed the lepers, he restored the paralytic, the lame, the blind; he expelled evil spirits, he raised the dead, he delivered those that were in jeopardy; he fed the hungry; he refuted the Pharisees; he took the part of the disciples, of the poor sinful creature who so lavishly poured out her ointment; he even comforted the guilty and unhappy woman of Canaan, who was detected in the commission of her crime. Review the whole life of Jesus; he never did evil to any mortal, though he was himself used so ill, and if he had chosen it, might have revenged himself so amply. He was uniformly the Saviour and the Benefactor. To Malchus he restored the ear which Peter had cut off. He would not suffer his own personal safety to be secured, even by so trifling an injury as that which was done to Malchus. Suspended on the cross, he saved one of the thieves that were crucified with him. After his death he brought over the centurion to the Christian faith. This was supporting the character of a king, truly so called—to do good to all, and injury to none. —*Extract from a Letter addressed by Erasmus to Francis the First, King of France, anno* 1253.

Miscellanea.

HISTORICAL RELICS OF THE GERMAN EMPIRE.

The great chapel of Aix-la-chapelle contains a vast number of relics, many of them enclosed in cases of gold, sparkling with diamonds. Those representing the reminiscences of the German empire are the following:—Part of the arm of Charlemagne, from the hand to the elbow; Louis XI., king of France caused it to be encased in 1481; the shrine is three feet long. The large bone of the arm of Charlemagne, from the elbow to the shoulder; the case weighs ninety pounds, is four feet high, two feet long, and one in thickness. The royal arm chair of Charlemagne, on which he was seated in his tomb for 352 years; it is of white unpolished marble, and was covered with plates of gold. It was on this that the king of the Romans sat, when he was crowned in the chapel in this city. He held a convocation of his princes, dukes and marquises, from the states of his vast empire of Germany, France, Italy, Saxony and Bavaria, and ordained that they should place in this chapel the imperial chair; and that this place should be universally recognized for the royal residence, and the capital city of France on this side the Alps; and that all the kings, his successors to the empire, should be crowned there. In consequence of this decree, thirty-six emperors have been since crowned in this imperial city. A considerable quantity of treasure was found in the tomb of Charlemagne, such as a golden shield, a huge golden chain which surrounded his body, a pilgrim's golden stick, and the great arm chair, before mentioned, was entirely covered with plates of pure gold. These treasures have been used for other purposes connected with the chapel. The days are passed when Pope Leo III. and a host of bishops, corresponding to the number of days in the year, surrounded the marble throne of this mightiest of feudal sovereigns, and represented at his magnificent court the submissive homage of "all the countries between the Rhine, the Alps, Spain and the sea," with his German kingdoms and Italian states. The *cor de chasse*, or hunting horn of Charlemagne, is not the least interesting of the imperial relics: it is formed of ivory, and was slung by a belt of crimson velvet, on which are the letters *dein ein* in silver gilt. The horn is two feet long and six inches thick;

with this may be mentioned the sword of Charlemagne, which the emperors carry at their coronation, and which they afterwards use in the ceremony of making knights. The scabbard is covered with plates of gold; it is three-and-a-half feet long, and two inches broad. This sword is now used at the place of coronation of the present emperors. The skull of Charlemagne is also well preserved, and is of huge size. Many of the ecclesiastical relics are adorned with gold, silver, and precious stones of great value, and occupy several rooms.

I inquired what the whole was considered to be worth, but the monks were not able to inform me. Their value probably was exceeded only by that of the ecclesiastical treasures of the chapel of Loretto in Italy, which was plundered by the French army, and which were said to amount, in gold, silver, and diamond offerings, to the enormous sum of two hundred and forty millions of francs. When the French revolutionary armies were commencing their depredations over the German empire, these relics were carried away for security, I think by the king of Prussia, who, though a Protestant, felt a natural desire for their preservation as the property of the German empire. The Emperor of Germany then claimed some as the property of his imperial dominions, and obtained some of the most precious. Amongst those now deposited at the Imperial court, I suppose, was a chest of gold, richly studded with *uncut* diamonds, in which is *said* to be shut up a part of the earth which was watered with the blood of Stephen, the first Christian martyr, as well as part of his bones, on which chest, the king of the Romans took the accustomed oath at his coronation. The Emperor has also obtained another singularly curious historical relic, namely, a book of the gospels, ornamented with plates of silver gilt, the leaves of which are of the bark of trees, very fine, and of celestial blue colour, on which the four Latin gospels are written in *letters of gold.* On this book the kings of the Romans took their oath on the coronation day. Many of those now remaining are of great value. One is a cross of gold ornamented with diamonds, presented by the Emperor Lothaire, which has in the middle an agate, with a naturally shaded figure, representing a dignified person, such as we might imagine that an emperor ought to appear. The cross is two feet five inches high.

The infant duchess of Brabant, Isabelle Claire Eugene, made a present to this chapel in 1629, for the images of the Virgin and child, of two crowns of gold, enriched with precious pearls, rubies and diamonds, and two robes richly embroidered and trimmed with fine pearls and diamonds. Mary, queen of Spain, also presented to the chapel, in honour of the Virgin Mary, a cross of gold, beautifully wrought, and ornamented with two large blue sapphires, pearls, and other precious stones. But the most valued of all is the great chest of gold and silver, elaborately carved and blazing with diamonds, around which are beautifully carved in relief the figures of our Saviour, his Mother, his twelve Apostles, and many of the events of his life. *Tradition* records that in this chest are contained, 1st. The white cotton robe of the Virgin Mary, which she wore in the stable at Bethlehem; 2nd. The mail-lots or swaddling clothes of yellow stuff, in which our Saviour was wrapped: 3rd, The linen cloth which was wrapped round John the Baptist after his execution; 4th. The linen in which our Saviour was bound on the cross. These four are called the great relics, and are exhibited only once in seven years, on which occasion vast numbers of pilgrims visit the city, and enrich the chapel with offerings. On one occasion it is recorded that 142,200 pilgrims entered the gates in a single day, and the offerings of 80,000 florins of gold attested the sincerity of the worshippers.

A laughable occurrence happened in one of my visits to Aix-la-Chapelle, when reviewing these curious remains of the by-gone days, which shows the disadvantages under which English travellers labour, who set off to see the world without having acquired a competent knowledge of any other language than their own. It was on a lovely evening in summer, when, bright with the borrowed lustre of the cloudless sun, these precious diamonds were glittering in prismatic beauty, that a large assembly of strangers, totally unknown to each other, except to such as belonged to each party, were assembled in the room where the exhibition usually commences. A considerable number are generally allowed to collect at a time, in order to spare the exertions of the polite and courtly monk, whose office is to explain the history of each specimen of costly workmanship. As each new party arrived, they generally joined in that respectful silence which usually accompanies tip-toe expectation, when alive for some extraordinary sight. Under these circumstances, it is impossible to know what is the mother tongue of a silent and numerous audience. Some there might have been who were wondering how the cottons and the linens, and the silks which were about to be exhibited, could have lasted undecayed since the commencement of Christianity; others might have expected to gladden their artistic eye with the elaborate workmanship of the vanished ages, and some of military bearing and Napoleonic feelings, recollecting the plundering of the chapel of Loretto, might have secretly wished that their next warlike invasion might be through the diamond regions, and golden mines of Aix-la-Chapelle. As most of the cases containing these curiosities were of *argent doré,* (silver gilt), these French words frequently occur in the explanation, and to one unacquainted with the language, this portion of the phrase, *gent doré,* sounds extremely like the name of the fish, to which we give the Christian appellation of John Dory Amongst the small party to which I was attached, was a young Irish gentleman, who was utterly ignorant of the French language. As the monk was expatiating upon the beauty of one of his curious gilded silver cases, he had no sooner uttered the words before-mentioned, than our hero, who was in the background, and recognized nothing but the identical words, exclaimed in astonishment, "Boys, do you hear that? he says that he has a John Dory amongst the relics;" a very general burst of laughter announced that most of the company were English, in which the monk joined, when informed of the cause, of what must at first have appeared to him to be an ill-timed laugh of incredulity.—*Notes of a Tour on the Continent, by the Editor.*

THE GREAT NORTHERN.

This large vessel, which it was expected would serve as a model for future Archimedian steam-ships, has not obtained as much favour amongst London architects, as the people of Derry would desire. The Polytechnic Journal gives an opinion upon its merits, which certainly is very different from what we had reason to expect. Amongst other observations are the following:—"We have taken an opportunity of visiting this vessel; and never met with a great steamer botched more effectually. This, indeed, the eulogistic paragraphs which have appeared in many of the papers, in some degree led us to expect, inasmuch as it is always the worst works which receive most newspaper commendation; and, indeed, it is such works alone, which need to rely on such auxiliaries. We look upon this vessel as one condemned irretrievably; and it grieves us much to be spectators of so portentous a failure, and to see vast sums of money so insanely dissipated. We have no doubt, that the owners and constructors of this vessel, will look upon our judgment as intemperate and unjust; but the sober part of the public will as certainly confirm it, in spite of the encomiums of hypothetical literati." Amongst the objections stated are, that the vessel is very rudely finished; that the fastenings are insufficient; that the whole of the carpenter work has a *very Irish air;* that they never saw engines so badly planned, or so badly constructed—"The whole is thrown together as if by chance; every part joins every other part as if it had been forgotten, until the part to which it had to be attached, was completed, and it had then to be coaxed into its place by bends and patches, and other such convenient suasaries. Altogether, the engines are the worst engines we ever saw in any steam-vessel whatever; and those who question the soundness of our judgment, need only visit the vessel, and judge for themselves. A monument of incapacity so glaring, must excite the secret laughter of the London engineers; and we think it unfortunate for the owners of this vessel, that she was ever brought to London at all. In the north of Ireland, or *any other outlandish region,* she might continue to be regarded as a paragon; but the splendour of her fame is dissipated and rendered dim by the juxta-position of works of real merit; and comparisons are provoked, which can end only in convincing even the uninitiated of the hollowness of her pretensions." If these strictures be correct, the ship-builders of Derry will certainly have cause to hesitate before they again attempt to build steam-vessels.

BALLOONS.

Hydrogen gas, being about fifteen times lighter than common air, is used for inflating balloons. Although the remaining more solid parts of the balloon, such as the car and framework, as well as the persons who ascend, are much heavier than air, yet, as long as the whole of the apparatus and its contents is lighter than the same size of air, it will float in that subtle fluid, just as a stick will float in water. Balloons were sometimes used by the French in the revolutionary war, so that by hovering over the enemy, they could discover their number, and position.

Coutel, Captain of the Aeronautic Corps, ascended with the Entreprenant Balloon, and conducted the wonderful and important service of reconnoitering the hostile armies at the battle of Fleurus, in 1794, accompanied by an adjutant and a general. He ascended twice on that day, to observe, from an elevation of 440 yards, the position and manœuvres of the enemy. On each occasion, he remained four hours in the air, and by means of preconcerted signals with flags, and notes sent down attached to arrows, he carried on a correspondence with General Jourdan, the commander of the French army. His intended ascent had been made known to the enemy, who, at the moment the balloon began to take its flight, opened the fire of a battery against the aeronauts. The first volley was directed too low: one ball, however, passed between the balloon and the car, and so near to the former, that Coutel imagined it had struck it. When the subsequent discharges were made, the balloon had already reached such a degree of altitude, as to be beyond the reach of cannon-shot, and the aeronauts saw the balls flying beneath the car. Arrived at their intended height, the observers, remote from danger, and undisturbed, viewed all the evolutions of the enemy; and from the peaceful regions of the air, commanded a distinct and comprehensive prospect of two formidable armies engaged in the work of deaths.

Captain Ross—The Antarctic Expedition.—The Alarm, Captain T. L. Stewart, left Guernsey last year for the Falkland Islands, and departed from thence at the end of May last for Buenos Ayres. A gentleman of this island (Guernsey) having received a letter by her, giving some account of Captain Ross, and the vessels under him, engaged on a scientific voyage of discovery, towards the Antartic Pole, has favoured us with the following extract:—

"Captain Ross and the Antarctic expedition are now here. The Erebus and Terror came in contact, on endeavouring to escape an iceberg, in the seas of the Southern Pole. The expedition will positively be here for five or six months to repair the vessels, and to make observations. Captain Ross has erected an observatory at the old French fort, built by Bougainville. A most interesting series of observations are carrying on, which will greatly interest the scientific world. Those upon the pendulum are noted every quarter of an hour. Astronomical observations are also carefully made by the officers. Thermometers are placed both above the ground and under it; mine, with my barometers, are now doing duty with the rest, and have the honor to be registered also. The anemometers, showing the direction and force of the winds, will add much to the valuable information afforded by Captain Sulivan, R.N., respecting these islands. Pluviameters are also carefully registered, and we are now about the end of your Guernsey November. A tide guage is by the jetty, and an excellent magnetic observatory, where the dip, intensity and variation of the needle are carefully registered by able observers. The officers relieve each other in regular watches on these duties, and I never met with such devotees of science. You would be delighted to see Captain Ross's little hammock swinging close to his darling pendulum, and a large hole in the thin partition, that he may see it at any moment, and Captain Crozier's hammock is close alongside it. The floor of his room is mother earth, from our want of timber. Captain Ross has been so kind, at my request, as to add to these observations another series to ascertain the rate of evaporation in these islands; and Hooker, the botanist, is also so good as to draw up a report on the grasses, the prevailing graminæ being considered as unknown in Europe. The splendid tussack grass is the gold and the glory of these islands. It will, I hope, yet make the fortune of Orkney and Irish landowners of peat bogs. Every animal here feeds upon it with avidity, and fattens in a short time. It may be planted and cut like the guinea grass of the West Indies. The blades are about six feet long, and from 200 to 300 shoots spring from one plant. I have proved, by several experiments, that one man can cut 100 bundles in a day; and that a horse will greedily devour five of these in the same time. Indeed, so fond of it are both horses and cows, that they will eat the dry tussack thatch from the roofs of the houses in preference to good grass. About four inches of the root eats like the mountain cabbage. It loves a rank wet peat bog with the sea spray over it. Indeed, when the sea beats with the greatest violence, and the sea spray is carried furthest, then the tussack grass thrives the best on the soil it loves. All the smaller islands here, though some of them are as large as Guernsey, are covered with tussack, which is nutritious all the year. The whole of the gentlemen on the expedition are delighted with the Falkland Islands, and express themselves as being more pleased with them than even with New Zealand. Some think them in every way better for colonisation, even with the drawback of wanting timber trees there. When the observations made during their voyage are published, you will be surprised at their favourable account of the climate. In addition to all these scientific observations, the surveying department is exploring and examining different harbours, sites for different objects in a new settlement, &c. The botanist and I started from Port William, where I had been eight days, at seven o'clock in this winter morning, and on foot; arrived at Government-House by four o'clock in the afternoon, examining the country we travelled over, where there is a good deal of mossy bog. No one had done this before in one day during the winter, yet the distance as the crow flies is not far. I have tamed a guanacoe from Patagonia. He lies down before the fire, with his head on my knee, like a dog, though he is now as tall as a donkey. I hope to get more in the Falkland Islands. They browse on the poorest land, and their flesh is like venison. Their wool is thick, but I fear not so valuable as that of the Alpaca. The monkey from the Cape de Verds has hitherto kept his health, and is quite lively. I hope soon to give a favourable account of my adding to our domestic breed of animals the valuable fur seal. In going from Fort Sussex to Mount Osborne I passed several herds of wild cattle. The day was most beautiful, and so clear that I saw from Cape Dolphin to Cape Carysford, all over Berkely Sound. Lively Island appeared at our feet. The potatoes came here in beautiful order, by the Alarm, from Guernsey. The onions I fear were picked in the sea-sand, as I lost them, and the plants, fruit-trees, &c. The fruit-trees should have been packed in moss, and pressed down in it."—*Guernsey Star*.

The Aerial Steam Carriage—When we first made the announcement of an aërial invention, we naturally shared the fate of all who have ever yet given publicity to a marvel, and we were laughed at for our credulity in believing even the existence of such a company as we described. The patent now, however, having been formally registered, the bill presented in parliament, and read last night for the first time, it begins to wear something the appearance of reality, though scepticism, as well it may, still prevents a full reliance on the wonderous nature of the invention—an invention which, if it only partially succeeds, must revolutionize society, and instead of dwelling on the tolerably sized surface of a globe, our world, by the ease of intercourse, will become so small that we must migrate to the stars. What becomes of "free trade," when machines are spinning among the clouds, flying with goods from all parts of the earth? No more ladies with false bustles cheating the revenue officers, when lace can be spun from the fleecy sky, while the carriage skims along. No more war, when an infernal machine can be quivering over a devoted army, pouring down a storm of artillery that shall make Jupiter sulky, and the Cyclops jealous. In fact, no more anything as it has been. Steam companies and railway shareholders ruined—shipbuilders bankrupts, and the whole navy useless—the army disbanded, selling their regimentals for fancy balls at the antipodes—emigration a matter of a summer's day's trip, as people now go to Greenwich, and the whole human family adapted for a new element, making the *Arabian Nights* and the *Tales of the Genii* the only authentic histories on record. But, in sober earnestness, this aërial steam carriage *is* nearly completed, and, whether it succeed or fail, we firmly believe it is opening a new world to the mechanic of whose existence he was before totally ignorant. The opinion of a scientific man who has *seen* the conveyance is, that it *may* fail on its first trial, owing to some unforeseen impediment; but the principle is so good on which it is formed, that the deficiency is sure to be rectified by the engineering talent of England immediately: and, further, that he would not have the slightest objection to be a passenger in its first essay in the air. All this looks like success, and when we, in connexion with others, relapse into unbelief, such statements as these, made from no interested motive, but the genuine opinion of sober-minded men, certainly are enough to wake us from scepticism, particularly when we remember the gigantic strides of science within the last few years.—*Atlas*.

Sulphur in Ireland.—Sulphur exists to a considerable extent in this country in combination with metals. The mines of Crone Bane, Ballygahun, and Ballymurthen, in the Vale of Ovoca, County Wicklow, yield a considerable quantity of sulphuret of iron in connexion with zinc. The ore is so rich in sulphur, that it is now made use of in this country and also in England, for the making of sulphuric acid (the oil of vitriol of commerce). The vitriol-makers are now almost independent of Sicilian sulphur, which was formerly used for the purpose to which the Wicklow sulphuret of iron is now applied. It is, however, right to state, that the presence of a slight quantity of arsenic deteriorates the value of the Irish sulphuret, as being applicable to the making of sulphuric acid.

Mexico.—Madam de la B., visited the famous silver mines of Real del Monte, where the industry and enterprise of England has formed a little colony in a romantic Mexican solitude. The occasion of the annual fete at San Augustin affords the fair author an excellent opportunity of observing, in her usual humourous strain, on the manners of this singular people. Speaking of the public ball at the Piaza, she says—

"On each table were great mountains of copper with an occasional sprinkling of silver. There was a profusion of evergreens, small tin lamps dripping with oil, and slippery tallow candles shedding grease upon the floor. Little ragged boys, acting as waiters, were busily engaged in handing round pulque and chia in cracked tumblers. There was, moreover, an agreeable tinkling produced from several guitars, and even the bankers condescended to amuse their guests with soothing strains. The general dress of the company consisted of a a single blanket, gracefully disposed in folds about the person so as to show various glimpses of a bronze skin. To this some added a pair of Mexican pantaloons, and some a shirt of a doubtful colour. There were many with large hats, most of which had crowns, or parts of crowns, but all affording free entrance to the fresh air; generally speaking, however, the head was uncovered, or covered only with its natural thatching of long, bushy, tangled black hair.

"This might be out of compliment to the ladies, of whom there were several, and who ought out of politeness to have been mentioned first. Nothing could be simpler than their costume, consisting of a very dirty and extremely torn chemise with short sleeves, a shorter petticoat and a pair of shoes generally of dirty satin; also a reboso, and the long hair hangling down as Eve's golden locks may have done in Paradise.' 'They call this place a Paradise,' a Spanish soldier wrote to his father, 'and so I think it is, it is so full of *Adams*.'

"There was neither fighting, nor swearing, nor high words. I doubt whether there be as much decorum at Crockord's; indeed, they were scrupulously polite to each other. At one table the banker was an enormously fat gentleman, one half of whose head was bound up with a dirty white handkerchief, over which a torn piece of hat was stuck very much on one side. He had a most roguish eye, and a smile of inviting benignity on his dirty countenance. In one hand he held and tingled a guitar, while he most ingeniously swept in the copper with the other. By his side sat two wretched-looking women, with long matted hair, and their elbows on the table, and their great eyes fixed upon the game with an expression of the most intense anxiety. At another the banker was a pretty little Indian woman, rather clean, comparatively speaking, and who appeared to be doing business smartly. A man stood near her, leaning against one of the poles that supported the awning, who attracted all our attention. He was enveloped in a torn blanket, his head uncovered, and his feet bare, and was glaring upon the table with his great, dark, haggard-looking eyes, his brown face livid, and his expression bordering on despair. It needed no one to tell us that on the table was his last stake. What will such a man do but go upon the road?"—*Life in Mexico, being a residence of two years in that country.*

The Flag of England.—Not a port have I visited since I left America, that I did not see the flag of England. It was the first flag I saw on entering the waters of France; it was the only one floating in the ancient harbour of Rome, at Civita Vecchia. Again I saw it in the deserted harbour of the Piræus, where once rode the fleets of Themistocles. I first saw the dome and minarets of Constantinople from beneath a cloud of cannon smoke that issued from British line-of-battle ships, saluting the Mahommedan al'y of Britain. The first object that met my eye on scaling the summit of the Pyramids was the cross of St. George, which some English traveller had planted there. Beyond the cataracts, on the borders of the Desert of Nubia, the only sign of civilization that I saw was the English cross flying from the masts of a traveller's boat. Here, on the extreme verge of civilization, I stood before this emblem of the universal presence of that nation; and in the lawless regions it gave me a pleasing sense of security to find myself so near a representation of that Power beneath whose broad ægis there is protection abroad for the most humble fugitive from violence and oppression.—*Amecan Traveller's Journal.*

Sugar from Zea Mays.—Experiments have been made in the State of Indiana, which seem fully to prove that the stalks of maize may be employed advantageously for the manufacture of sugar. It is well known that the sugar cane, as grown in Louisiana, does not produce above one-third as much saccharine matter as when raised in Cuba and other tropical situations. In Louisiana, one acre yields from 900 to a 1000 lbs. of sugar, and it appears that 1000 lbs. may be obtained from the stalks of maize. The juice of the latter contains more than three times as much sugar as the juice of the beet root, and five times that of maple. By plucking off the ears of the maize as they begin to form, the saccharine matter of the stalk is greatly increased. The maize stalks require less pressure, and the whole of the stalk can be used, afterwards affording a good fodder for cattle. The plant can be raised with the greatest ease, in from seventy to ninety days; whereas the sugar-cane requires much care and attention, and does not arrive at maturity in less than eighteen months.—*Philosophical Journal.*

Human bone, according to Berzelius, contains:—

Cartilage soluble in water	32,17
Vessels	1,13
Basic phosphate of lime, with a little fluoride of calcium	53,04
Carbonate of Lime	11,30
Phosphate of Magnesia	1,16
Soda, with a very small quantity of chloride of sodium	1,20
	100

Marchand's Analysis:—

Cartilage insoluble in hydrochloric acid	27,23
Cartilage soluble in do.	5,02
Vessels	1,01
Basic phosphate of lime	52,26
Fluoride of calcium	1,00
Carbonate of lime	10,21
Phosphate of Magnesia	1,05
Soda	0,92
Chloride of Sodium	0,25
Oxides of iron and manganese and loss	1,05
	100

Roman Antiquities.—There was lately discovered near the town of Hyeres, in the Var, the remains of an ancient Roman city. Excavations having been made to the extent of between eighty and one hundred yards in a line from the sea-shore, there was opened out a hypocaust of large dimensions, reservoirs, &c. and several walls faced with curious paintings, one of which is semicircular. These paintings were at first very fresh, but faded on exposure to the light and air. They are composed of arabesque figures of men and animals, flowers and other ornaments, fantastically arranged, similar to the most beautiful of those found at Herculaneum and Pompeii. Pottery, vases, medals, coins, &c. have also been lately discovered.—*Polytec. Jour.*

On the Growth of Salmon.—So far back as the months of April and May, 1837, Mr. Young marked a number of descending smolts, by making a peculiar perforation in the caudal fin, by means of small nipping irons constructed for the purpose. He recaptured a considerable number of them ascending the rivers as grilse, in the course of the ensuing months of June and July, and weighing several pounds each, more or less, according to the difference in the length of their sojourn in the sea. Again, in April and May, 1842, he marked a number of descending smolts by clipping off the little adipose fin upon the back. In June and July he caught several of them returning up the river and bearing his peculiar mark, the adipose fin being absent. Two of these were exhibited to the Society. One marked in April, and recaptured on the 25th July, weighed seven pounds; the other, marked in May, and recaptured on the 30th July, weighed three and a half pounds. Mr. Young marked many small grilse after they had spawned in winter, and were about to re-descend into the sea. He re-captured them in the course of the ensuing summer as finely formed salmon, ranging in weight from nine to fourteen pounds, the difference still depending on the length of their sojourn in the sea. A specimen, marked as grilse of four pounds in January, 1842, and re-captured as a salmon of nine pounds in July, was exhibited to the Society. It bore a peculiarly twisted piece of *copper* wire in the upper lobe of the caudal fin. Those marked and re-taken in 1841, were marked with *brass* wire in the dorsal fin. Both grilse and salmon return uniformly to their native streams; at least it very rarely happens that a fish bearing a particular mark is found except in the river where it was so marked. A spawned salmon weighing twelve pounds was marked on the 4th March, and was recaptured on its return from the sea, on the 10th July, weighing eighteen pounds. Mr. Young is of opinion that salmon rather diminish than increase in size during their sojourn in rivers, and he illustrates this and other points of his subject by numerous experiments and observations.—*Proceedings of the Royal Society of Edinburgh.*

TO OUR SUBSCRIBERS.

In consequence of an objection which has been made at the Stamp Office to our issuing unstamped copies for the city, but without the privilege of going through the Post Office, as is permitted to all literary publications in London, our number for this month is unavoidably delayed for a few days. The subject is not yet decided.

Post Office Regulations.—As the stamped copies of this Journal are permitted to pass free through the Post Office, the Directors of that Establishment have obligingly forwarded to us the following notice, and as it contains clear directions for our readers, we insert it here:—

"In consequence of the frequent complaints of the Loss and Exchange of Newspapers passing through this Department, which is mainly attributable to the insecure manner in which they are enclosed in their covers, Parties forwarding Newspapers, through the Post Office, are recommended to write the address on the printed part of the Paper itself as well as on the Envelope, which will, in a great measure, remove the evil, and tend to secure their safe delivery.

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Letters addressed to the Proprietor, JOHN KNOTT, 62, Lower Charlemont-street, shall be punctually attended to.

N.B.—Reference can be given to the Proprietor of this Journal.

Dublin, 3d Month, 1843.

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SIXTH MONTH (UNE), 1843.

THE

DUBLIN LITERARY JOURNAL,

AND SELECT FAMILY VISITOR,

FOR THE DISSEMINATION OF USEFUL KNOWLEDGE.

No. 4.—Vol. I.] SEVENTH MONTH (JULY), 1st, 1843. [Six Shillings per Annum.

Reviews.

A Journal of the Disasters in Affghanistan in 1841—2. By Lady Sale. London: John Murray. 1843.

The public expectation was raised to the highest pitch in looking forward to the publication of this extraordinary book, in which they expected to have their minds enlightened as to the cause of a disaster so unusual in the history of our country, so full of melancholy retrospect, quite apart from military considerations. To lose a brave and numerous body of soldiers by a calamity bordering on sudden and sweeping annihilation, was an event which those most skilled in the ever changing fortunes of war never contemplated. The soldier, the philanthropist, and all those who are bound by the ties of our common humanity, seemed awakened, as if from slumber, at the appalling news. All seemed anxious to inquire about the cause of this strange misfortune, as if they were personally concerned in the affair; nor could their wishes be satisfactorily fulfilled until the appearance of the present volume. It possesses a merit which cannot be claimed by any other work published on this subject, namely, that it was written on the spot and whilst events were fresh in the recollection of the sufferers. Of this circumstance Lady Sale thus speaks :—

"I have not only daily noted down events as they occurred, but often have done so hourly. I have also given the reports of the day, the only information we possessed, also such news as was telegraphed from the Bala Hissar, or sent in by the king, or by Captain Conolly to the envoy; and many other reports brought by Affghan gentlemen of Captain Sturt's* acquaintance, and by others of lower degree, who having had dealings with him in the engineer department and public works, and having received kindness from him, gave him such intelligence and warning as was in their power: all of which he communicated to his superior officers at different times; but the warnings were not attended to; and as, when he gave his advice it was seldom adhered to, he became disgusted, and contented himself with zealously performing his duties and making himself generally useful, acting the part of an artillery officer as well as that of an engineer. Had poor Sturt's life been spared, it was his intention to have worked up my rough notes, and to have added much valuable information: he was too much overworked to afford leisure to give me assistance at the time. His plans, drawings, &c. with his public and private papers were lost, except a note or two, that were, just a few days before we left Cabul, put with my journal. I believe that several people kept an account of these proceedings, but all except myself, lost all that they had written; and had recourse to memory afterwards. I lost everything except the clothes I wore; and therefore it may appear strange that I should have saved these papers. The mystery is, however, easily solved. After everything was packed, on the night before we left Cabul, I sat up to add a few lines to the events of the day, and the next morning I put them in a small bag, and tied them round my waist. A much better narrative of past events might have been written, even by myself; but I have preferred keeping my journal as originally written, when events were fresh, and men's minds were biassed by the reports of the day, and even hour."

In commencing her notes on the eventful occurrences which she was about to describe, Lady Sale observes, that it is easy to argue on the wisdom or folly of conduct after the catastrophe has taken place. It is clear, however, that she herself was conscious of many instances of injudicious conduct at the moment of their occurrence, and she is not sparing in her observations as to their probable results. She informs us that General Elphinstone was conscious of his incapacity of mind as well as body, owing to severe disease, and had really given up the command to General Nott, who never arrived there in time to assume it. In the Bala Hissar (royal palace or upper citadel), a mile and a half distant, and in the village of Ben-i-shehr, just under it, there was an impregnable defence and a year's provisions, and yet the adviser whom the General called in, proposed to fight his way back to Jellalabad, through the terrible country where so many men had been lost before. Under these circumstances, it appeared impossible for the feeble mind of the General to come to any decision, and in the conflict of opinions,

"the greater part of the night was spent in confusing the general's ideas, instead of allowing a sick man time, by rest, to invigorate his powers. From such counsels no good was likely to result.

"Brigadier Shelton was in the habit of taking his rezai (quilt) with him, and lying on the floor during these discussions, *when sleep, whether real or feigned, was a resource against replying to disagreeable questions.* Major Thain, a sincere friend and good adviser of the general, withdrew in disgust from the council: and Sturt, who was ever ready to do anything, or give his opinion when asked, from the same feeling no longer proferred it."

The Journal commences with the date, "September, 1841," and informs us, that an expedition was sent out to take some towns whose people had fired on the Shah's troops, and they took the chief and his wives by surprise, some of the army riding sixty miles in the night. His place of residence was discovered by the treachery of *his son-in-law*, and the Shah ordered him to be executed. The immediate cause of the general disaffection to the Shah and England was owing to the injudicious curtailment of the allowance made to the native chiefs, by which policy a general insurrection commenced, and which, owing to the mismanagement in the remaining departments, terminated in the total destruction of the unfortunate army. This was the more unnecessary, as the money of which the chiefs were deprived, did not go into the pockets of the East India Company *in any shape*, and the act was committed on the ground of saving to the Company. For this act, the wise and the injudicious were involved in one common ruin.

"In former times, under the feudal system, when the sovereign of Cabul required troops, each bold chieftain came forward with his retainers; but these vassals had been taken from them, and were embodied in corps, commanded by British officers, to whom they owed no affection, and only paid a forced obedience, whilst their hearts were with their national religion; their chiefs' power was now greatly limited, and the chouk granted to them was withheld on the plea that the Company had commanded the retrenchments. But the saving required by government, was a curtailment of those expenses which were defrayed by its own rupees, whereas the 40,000 rupees now the subject of dispute, were in fact, *no saving to us at all*, as that money was never paid by the Company, but was the chouk or money *excused* to the chiefs, out of the revenue or dues owing to the king, on condition of their enforcing the submission of the petty chiefs, and the payment of their rents. The sum, whether paid to Shah Shoojah, or not, would never have replenished the Hon Company's coffers; and, by upholding the Shah in an act of aggression, we compromised our faith and caused a pretty general insurrection, said to be headed by Meer Musjede"

Here was the fatal error, for this very money was tribute which had heretofore been paid or *excused* in the taxes, which is the same thing, to the native chiefs for keeping the passes open and holding the native tribes in check. Our envoy, as every one knows, suffered in common with the rest for this exaordinary policy; besides there must have been the most unaccountable ignorance or neglect of the history of these warlike people, formidable, like all mountaineers, in their mountain passes. The historical knowledge of the danger of these passes, and of their active defenders, should have made them hesitate before they put £5000 into the scale against *a vast and certain loss of men and money*, quite independent of the folly of the act, on the ground of benefitting the coffers of the Company. So lately as the last century these despised Affghans overthrew the Persian Empire, and the deposed monarch thought himself happy in being permitted to retain his life with this confession to his conqueror—

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* Lady Sale's Son-in-law.

"Such is the instability of human grandeur: God disposes of empires as he pleases, and takes them from one nation to give them to another; but I promise to consider you always as my own father, and I will undertake nothing for the future without your advice.

In 1730, however, they were driven out by the warlike Nadir Shah, who lost so many men in his invasion of these mountain provinces, that he found it necessary *to pay* the chiefs to restrain their followers from attacking him in the defiles.

The language of the people is the Pushtoo, and they claim their descent from the family of Saul, and even Sir William Jones considers them to be descendants of the Jews.

"We learn," says he, "from Esdras, that the ten tribes, after a wandering journey, came to a country called Arsareth, where we may suppose, they settled. Now the Affghans are said, by the best Persian historians, to be descended from the Jews; they have among themselves, traditions of such a descent; and it is even asserted, that their families are distinguished by the names of Jewish tribes; although, since their conversion to the Islam, they studiously conceal their origin. The Pushtoo language, of which I have seen a dictionary, has a manifest resemblance to the Chaldaic, and a considerable district under their dominion, is called Hazareh or Hazaret, which might easily have been changed into the word used by Esdras. I strongly recommend an inquiry into the literature and history of the Affghans."

From the days of Thermopylæ to the events of the Kyber Pass, mountaineers skilled in the use of arms, have always contended with advantage against much larger numbers, and were finally subdued by some accidental advantages which the former possessed. Of latter times, a mountainous province in Germany, whose honest and industrious population, amount to perhaps no more than 100,000, gave the name of Hofer and his Tyrolese to the page of history. These men defied the whole force of Napoleon and Bavaria, and permitted not a man of an army of 27,000 to escape. It was in vain that French, Bavarian, and Italian armies followed one another in rapid succession, or that they strove to exterminate the inhabitants by the most savage barbarity; towns and villages were consumed with their innocent inhabitants, but not with impunity. At the pass of Landeck, nine miles in length, the Tyrolese had prepared rocks and trunks of trees to roll down on the advancing enemy; every precaution had been taken to lull suspicion, and as soon as a preconcerted signal was given, stones, trees, and loosened rocks were set in motion along the whole line of the ravine, and 6,000 French, Bavarians, and Saxons are stated to have been destroyed or crippled by these tremendous weapons; Lefebvre evacuated the country with the additional loss of 29,000 men, nor were they finally subdued, until, deserted by Austria, and their leader betrayed by [a priest for 200 Louis d'or, they beheld Hofer executed by the mandate of military despotism at Mantua.

In the midst of the difficulties which presented themselves on every hand at Cabul, it was resolved that a force should be sent forward as an advance to Khoord Cabul in order to secure the road.

"12th. The 13th and 35th, with the two guns under Dames, moved forward, the whole under Sale, their object being to go through the Khoord Cabul Pass, and place the 35th N. I. in an advanced position at Khoord Cabul, after which the 13th were to fall back again on Bhoodkhak. This movement was effected, but with considerable loss. The Khoord Cabul is a narrow defile, enclosed by high and rugged rocks; it is said that the number of the enemy did not exceed sixty men, but they possessed considerable advantage over our troops in the knowledge of the country, and in the positions which they took up; for until they commenced firing, not a man was known to be there. They were concealed behind rocks and stones, and by a stone breast-work that they had hastily thrown up, behind which, on our troops entering the pass, they laid in wait, and appeared to pick off the officers in particular. The number of the enemy were, however, underrated, as I am assured that there were 200 of them. The 35th lost, in killed and wounded, about forty men, and Captain Younghusband, of the same corps, was badly wounded in the foot. The 13th had eight men killed, and nineteen wounded. General Sale was wounded in the left leg; the ball entered near the ancle, shivered the small bone, and was taken out from the skin on the other side where it had lodged.

"13th. A poor woman, a Mrs. Smith, the wife of a conductor, was travelling up the Bolan Pass to Kandahar, with a few suwars as a guard; she was attacked by the Belochees; the suwars fled; Mrs. Smith got out of her palkee, and ran a short distance, but was soon overtaken and killed; the body was not plundered, and her rings were found on her fingers, her ear-rings in her ears; not that they committed the act from hatred of the Feringhees, and disdain of plunder, but that, according to the superstition of these tribes, it is a most unlucky circumstance to kill a woman; and finding their victim of the gentle sex, they fled, and left her as she fell."

The treachery of these faithless people was universal, and such as there seemed to be no possibility of providing against.

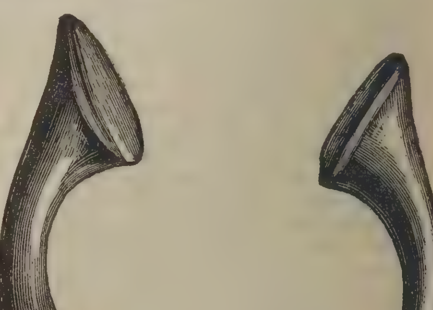
"It appears that the Hazir Bash (*always ready*), the escort sent by the king with Captain Trevor to Captain MacGregor, political agent, were the people who let the Ghilzyes into the 35th's camp—they were partly of the same tribe, and whilst the rest were fighting, these *ever ready* gentlemen did a little work of their own—cutting down surwans (camel drivers), and ham-stringing camels. Whilst they were thus employed, Captain Wyndham came up with a company of the 35th, and fired into the midst, putting them to the rout. Colonel Monteath turned these people out of the camp, as unsafe to be trusted; the envoy has ordered them to be sent back to Cabul, and to be kindly treated, and will not believe them to be in fault."

It is quite remarkable that, to the very last, the envoy was hardly undeceived as to the true character of the people he had to deal with. The bullets of the Affghans whistling about his ears, and their swords flashing destruction in his eyes, seemed to fail in convincing him of his danger. It was too late to retract when the perfidious Akhbar performed the part of his assassin at the ensuing conference, where his person should have been sacred.

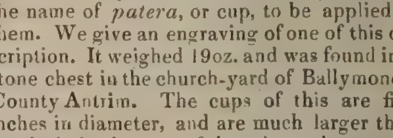
Etruria-Celtica.—Etruscan Literature and Antiquities investigated; or, the Language of that Ancient and illustrious People compared and identified with the Iberno-Celtic, and both shown to be Phœnician. By Sir William Betham, Ulster King of Arms, V. P. R. D. S., F. A. S., M. R. I. A., &c. &c. 2 vols 8vo. Dublin: P. D. Hardy & Sons. London: R. Groombridge, Boones.

(Concluded.)

It is well known that a vast quantity of gold, silver and other metallic instruments and vessels, have been dug up in the bogs and soil of Ireland. The finest collection is now in the possession of the Royal Irish Academy, for which it was purchased from the executors of the late distinguished and estimable antiquarian, the Dean of St. Patrick's. Amongst these remains of the early ages, are rings and an instrument similar in shape to the annexed representation, which is correct as to size. It was one of a large quantity that would load a cart, mostly of bronze (tin and copper) articles, which were found on opening a tumulus in the county of Monaghan. They were generally melted down; but this one was preserved. The name by which they are now recognised, is *manilla.*



Many of the specimens which have been dug up in Ireland, are of pure gold. Some of these have cups at the end, which occasioned the name of *patera*, or cup, to be applied to them. We give an engraving of one of this description. It weighed 19oz. and was found in a stone chest in the church-yard of Ballymoney, County Antrim. The cups of this are five inches in diameter, and are much larger than usual; indeed, many of them have the cups so shallow, that some antiquaries could not reconcile the theory of their being used for holding liquids, with the common principles of reason; for unless two persons drank out of one instrument together, which was impossible, from the closeness of the cups, it is evident that if one only was used, the contents of the other would be spilled.



Sir William Betham's volumes go to show that these curious pieces of workmanship were intended as money; and the proofs of some of his arguments are substantiated by facts:

"Seutonius says, (in Cæsare, cap. 54,) in Gallia fana templaque Deum donis referta expilavit, urbes diruit, sæpius ob prædam quam ob delictum, unde factum est ut auro abundaret ternisque millibus mummum in libras promercale, per Italiam provenciasque divenderet."

"The great abundance of gold found by Cæsar in the cities and temples of Gaul, absolutely diminished its value in Italy. It also appears from Cæsar and Diodorus Siculus, that there was a great abundance of gold among the Celtæ; the people wore the richest and most ponderous ornaments of that metal, as torques, chains, breastplates, and even had the frontlets of their helmets covered with plates of gold. Many specimens of all these have been found, of great weight and value, in Gaul and Britain; but in recent times, those found in Ireland greatly exceed them, both in number and value.

"Many reasons might be given for the more frequent occurrence of these remains in Ireland than in either Britain or Gaul. The former has ever been more a grazing than an agricultural country, and therefore, its surface has been much less disturbed than the other parts of Celtica; the plough and the spade have been less active, therefore the remains of the magnificence of former ages have there remained longer undiscovered. The cultivation of the potato has been, however, of late years, greatly instrumental to the discovery of these antiquities: most of those found without the bogs, have been brought to light by the potato-planter's spade.

"The bog is also of such a nature, as sometimes to overgrow the level of the ground adjoining, and overflow it, and thus cover even the habitations of men, and with them all their valuables. An instance of this having taken place, has lately been discovered by Captain Mudge, R.N. while employed in making a survey of the coast of Ireland. In cutting out a bog he discovered a series of wooden buildings of a very rude character; and the stone axes with which the timbers had been hewed into shape, were found on the spot, which were, no doubt, covered by the moving bog, while in the very act of construction, and so remained until discovered by Captain Mudge. These must have been built at a period previous to the Celtic invasion, as stone axes were the implements of the Cimbric *tuath de daoine*, or Northern people.

"The aggregate amount of the articles of manufactured *gold* found in the course of twelve months in the bogs and fields of Ireland, is truly surprising—most of them of exquisite and elaborate workmanship. Besides those which come under the notice of the antiquary, immense quantities are secretly broken up and sold by the finders as old gold, lest the owners of the soil should make their claim, and deprive them of the fruits of their good fortune.

"Ancient silver articles are, however, of much rarer occurrence, at least those which may be considered Celtic. It may safely be said that there are found a thousand articles in gold for one of silver. This may possibly be attributed to the ease with which gold was collected, compared with the exertion necessary to obtain silver; the latter requiring all the labour and skill of mining and refining operations, while gold is found, frequently, if not generally, in a pure state in the soil, washed down by the mountain streams."

Several pages of the second volume are devoted to support an opinion of the Author, that the rings and manillas of the different metals, were anciently used in this country, as in others, for the circulating medium for money. His arguments appear to be supported by sufficient authority, for he presses into his service the writers of all ages from Julius Cæsar to Sir John Tobin.

"Cæsar tells us, that the Gauls *use for money, gold and iron rings, by certain weight.* The latter have perished by oxidation (rust), but the two former are found, in great abundance, in the fields and bogs in every part of Ireland. These curious remains are so perfectly analogous to the accounts given of the Britons and Gauls, by Greek and Roman writers, that they of themselves afford powerful testimony of the identity of the origin of the ancient Irish and that people. To gold and iron may be added silver and brass rings of a graduated weight.

"Sir H. Wilkinson, in his work on the Thebaid and Egypt, shows that the most ancient money of that country, even before the Exodus of the Israelites, was gold and silver rings of a graduated weight, as the following extracts will show:

"In the second line, black chiefs of Cush or Ethiopia, bring presents of *gold rings*, copper, skins, fans or umbrellas of feather work, and an ox, bearing on its horns an artificial garden, and a lake of fish."

"A continuation of these presents follows in the third line, where, besides *rings of gold*, and bags of precious stones, are the camelopard, &c."

"The money of the Ethiopians and Egyptians, was in *rings of gold and silver*, like those still in use about Sennaar. I had interpreted the hieroglyphic signifying silver, '*wrought gold*,' but the white colour of the *rings*, placed opposite to others painted yellow, in another tomb at Thebes, decides the question in favour of the word *silver*.

"Thothmes III. (149 B.C. p. 1545.) The money used at that epoch was, as I have already observed, *of gold and silver rings*."

"The smaller gold ring-money found in Ireland, and that now in circulation in Africa, is formed of thin round bars of gold, or wire, which being first made of an equal thickness, and the maker having formed one of the precise weight, and thus ascertained the length, could divide the others with considerable accuracy. After being cut into lengths and weighed, it was necessary to form them into rings. Straight pieces would have been of inconvenient carriage, and more liable to loss. The ends of the thinner rings being unconnected, were formed into chains, and easily separated when wanted for purchase, as is the case now in Africa. The thicker rings are not capable of being formed into chains, and could be used for no purpose but money, the aperture being too small, and the wire too thick and strong, to admit of their passing through each other.

"Vast quantities of articles in gold and brass are also found, the uses of which have not a little puzzled learned antiquaries. Vallancey calls them *pateræ*, but as pateræ, they are of a most inconvenient shape; they will not stand, so as to hold a liquid; and, having two cups, one would discharge itself, while a person was drinking from the other. Vallancey supposes them sacrificial cups, and that they were used to pour forth oblations to the gods; others have fancied them to be used to cover the breast of the *dea mater*. All these speculations are untenable, some of them have flat surfaces, consequently could never have been used as pateræ, as they would contain no liquid whatever.

"The objections against their being fibulæ, are equally cogent; a buckle or fastening of gold, of fifty-six ounces weight, appears absurd; besides undoubted fibulæ of the precious metals and of brass are found in Ireland, in great quantities, of convenient and palpable shapes.

"Their peculiar form appears to render them incapable of application to any active operative purpose; and the only conclusion which appears satisfactory as to their use is, that they were ingots of gold, or the larger species of the circulating medium, and but a variety of ring money."

Sir William Betham thinks that these rings were cut to represent a regular series of weights, which of course one should expect, if it be granted that they were money. He gives us plates of the different kinds, and also their troy weights. In the annals of Ireland, frequent mention is made of offerings of gold made by the princes of Ireland to churches, &c. and their weight in a certain number of ounces is *always* mentioned. When Sir William speaks of forgeries of brass covered over with gold plating, and which fraud he declares to be very ancient, we must remind him that it is by no means certain that they were made with a fraudulent intent, because, as he himself shows in the same chapter, there are at this moment prepared in England vast quantities of similar money, some gilt and others plated with silver, for current distribution in Africa, and yet they are not forgeries, but pass for their intrinsic value, being understood by their weight. The following is a copy of a letter on this subject, received by the author from Richard Sainthill, of Cork, a gentleman well known for his antiquarian knowledge, dated 5th November, 1836:—

"A vessel going to Africa, to trade with the natives, was wrecked last summer, on the coast here; among the articles on board for barter, were some boxes of cast iron pieces, extremely like our species of gold articles found in Ireland. Annexed is a rude outline of one which was saved from the iron foundry where they were sold and smelted. I understand they pass in barter, as about the value of one halfpenny, but the similarity of shape to the old Irish articles is curious."

We are next informed that there is not any difference in shape between those saved from the ship and the Irish relics of early days; this is palpable to ourselves, for we got a packet from the shipwrecked vessel, and they are now before us. They are somewhat rusted by the salt water. Having ascertained that Sir John Tobin was connected with the shipwrecked vessel, Sir William corresponded with him on the subject, and obtained the following interesting letter:—

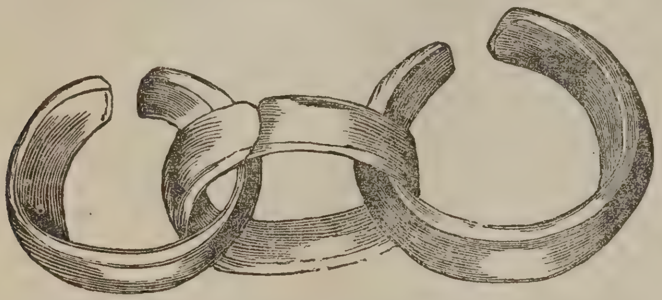
"Liverpool, Dec. 26, 1836.

"The schooner Magnificent, which was lost some where near Cork, some time since, was bound to the River Bonney, or New Calabar, which is not far from the Kingdom of Benin. The trade to these rivers for palm oil and ivory is cotton goods of a great variety, gunpowder, muskets, and an extensive number of other articles, and *manillas*, both of iron and copper mixed, which is the *money* that the people of the Eboe, and brass country, and all the natives of that neighbourhood go to market with. On Wednesday next I will send you a manilla of each kind."

The copper manillas pass in Africa for about four pence each. Sir William considers that he has found the original of the African name for these pieces of money. Manilla, he says, is compounded of two Irish words, *main*, riches, patrimony, goods, value, and *eallac*, cattle or property, the same as *pecunia* in Latin. It is curious that so few silver antiquities have been found in Ireland; this is doubtless owing to the scarcity of silver in our mines, and the difficulty of extracting it from its combinations. There is a considerable quantity at present extracted from our lead, but the art of chemistry was little understood in the early ages. The Wicklow gold has always been found about as pure as the current gold of the empire.

“The silver ring money found in Ireland differs from the gold, in being made into flat bars cut into lengths, and formed into rings, unconnected at the ends, like those of gold. They have generally been found connected together in a kind of chain, of very fine silver, and soft, and therefore easily separable when wanted for use. They also are graduated on a unit of twelve grains.”

We give underneath a representation of three rings of this silver money.



We have not room at present to notice many other parts of these interesting volumes; amongst them is a chapter on Etruscan coins, illustrated by numerous plates, and another similarly illustrated on Celtic arms and armour. We have devoted more space than usual to this work, on the ground that it would prove interesting to many of our subscribers, and we have had many assurances both from England and this country that such has been the case; we know that some heads of respectable classical establishments consider that the derivation given for many of the proper names in ancient geography and mythology are to be preferred to those usually received. We are satisfied that this work will take its place in the great library of European literature, and that for originality of design, perseverance in execution, and success in its *main* features, it will be generally acceptable.

The History of China, Pictorial and Descriptive, from the earliest period to the present time. Parts 2 and 3. By Miss Corner. London: Dean and Co.

[Continued from our last].

This handsome work increases in interest as it progresses forward. It enlightens us upon several subjects upon which we were before in total ignorance. Thus, whilst we laugh at the Chinese for their backwardness in adopting our manners and customs, which, however, we have chosen a singular way of convincing them are better than their own, our author informs us that they were learned, whilst England was buried in ignorance, and that whilst the Saxon heptarchists ruled England, and that whilst France was in its early boyhood of civilization, China was reaping the fruits of peace, commerce, civilization and learning. It is yet to be decided which side has the best reason to laugh at the other. We leave all our readers to decide this point to their own satisfaction, our own mind being made up on the subject. After the extinction of the Tang dynasty, the country was in such confusion, that five families, affording thirteen emperors, were successively overthrown, most of them dying by violent deaths.

“Yet it was in these turbulent times that printing began to be practised in China; *an event which occurred about* 500 *years before that art was known in Europe*; and as there is no invention which has contributed so largely towards the improvement of mankind, it may reasonably be said, that until the Europeans were possessed of the means of multiplying books by means of printing, they were not so far advanced in civilization as the Chinese. The method first adopted in China was to engrave the characters on stone, consequently, when the impressions were taken off, the ground of the paper was black, and the letters were white; but this mode was shortly superseded by the invention of wooden blocks, cut in such a manner that the letters were raised instead of being indented, and thus were impressed in black on a white ground. This mode of printing from wood is still practised in China, and is better adapted to the written language of the Chinese, than the use of moveable types, as the words are not formed of separate letters like those of European languages, but a single character expresses a whole word, and sometimes more than one; and as there are many thousands of characters, it would cost the printer much unnecessary time and trouble to compose a page according to our plan. Before the invention of printing, there must have been a vast number of Chinese constantly employed in writing, as they were always a reading people, and even the poorest peasants were able to obtain books in manuscript, while in Europe a book was a thing unknown among the lower classes, and seldom to be met with, except in monasteries, or the palaces of kings.”

The first regular establishment which the Tartars obtained inside of the Chinese empire, was owing to a grant of a district to some Tartar tribes, by an usurper of the Chinese throne. This led to the long and dreadful wars which ended in the subjugation of the whole country by these formidable plunderers. Amidst the crash of thrones and the overthrowing of dynasties, it is curious to observe how the customs of this extraordinary empire remained unchanged. We read of a royal lady of Spain, preferring to be burned to death, when her clothes caught fire, rather than allow the flames to be extinguished by a female below the established rank, which Spanish etiquette considers sufficiently noble to be permitted to touch the royal person. The Chinese emperors were not less scrupulous in obliging their wives to pay respect to the rites of royalty, and the ladies themselves appear to be equally scrupulous in departing from established customs.

“An Emperor of one of the petty dynasties, who occupied the throne before the race of Tang, going on a party of pleasure, took with him one of his wives whom he left at a summer house on a beautiful little island; desiring her to amuse herself until his return. He had not proceeded far on his excursion, when he heard that the waters had suddenly risen to a great height, on which he despatched some of his attendants in all haste to save the princess from the danger in which he had so unintentionably placed her. By the time they arrived, the tide had already covered a part of the island, and as it was still rising, they lost no time in endeavouring to rescue the princess. It happened, however, that the Emperor, in his alarm, had forgotten to send his seal, as was customary when he wished to see any one of his wives; and it was quite irregular for them to enter his presence without this token. The princess, therefore, when told that her imperial lord desired that she would accompany his messengers without a moment's delay, asked for the seal, and as it could not be procured, she refused to follow them; and, in spite of their earnest entreaties, persisted in remaining, whilst they rode back for the signet; but although they made what speed they could, they were too late; as, in the interim, the island had been overflowed, and the princess and her attendants had all been drowned.”

The emperor Taitsou paid great attention to the improvement of his army, on finding that the Tartars were disposed to extend their dominions at his expense. He passed a law, that no soldier should be promoted to command, until he had written a treatise on the art of war, and given proof of his skill in horsemanship and archery. Some of the succeeding emperors also ineffectually attempted, like our Saxon kings, in the Danish times, to purchase peace, by paying tribute; but this plan must end only in further encroachments on the first refusal of the money. The people meanwhile continued their habits of industry. About the year 1000, were established the famous porcelain manufactories at King-te-chin in the province of Keang-sy, where the finest is still manufactured. They also exported to the neighbouring countries fine species obtained at the Molucca islands, which they possessed for about sixty years, when the Malays got possession of them. Little tea was then consumed out of China.

All wandering nations become warlike from the necessity which exists of finding means of support, independent of industry. Occasional want makes them plunder their neighbours, and thus they become habituated to warfare, and an overmatch for the peaceable nation. China was now about to experience the truth of this in all its force.

“In the reign of Weit-soong, the eighth emperor of his line, the horde of Tartars who had settled in the north, forming a tribe belonging to a great nation called Kitans, grew so formidable, that contrary to the advice of his wisest ministers, Weit-soong was imprudent enough to solicit the assistance of the Kin, or Eastern Tartars, another powerful tribe, who were at war with the Kitans, and very readily entered into an alliance with the Chinese emperor against their common enemy. The result was such as had been foreseen by those who had endeavoured to dissuade their Imperial master from seeking such aid, for no sooner had these dangerous allies accomplished the object for which they had been called in, and had driven the Kitans out of the country, than they took possession of the vacated provinces; and, having found that they were a stronger and more warlike people than the Chinese, they soon began to meditate the conquest of the whole country. Weit-soong perceived his error when it was too late to remedy the evil; but still hoping that he might be able to make terms with the barbarians, he repaired to their camp, accompanied by several princes of his family, when he and his whole party were made prisoners and conveyed into Tartary; while the Tartar chief, having caused himself to be proclaimed Emperor, commenced his march to Honan the Imperial city. The Chinese, on receiving intelligence of the capture of their sovereign, had placed his eldest son, Knitsoong, on the throne; but this prince neglected to take measures for stopping the approach of the enemy, who crossed the Hoang-Ho, or Yellow River, without opposition, proceeded direct to Honan, which they took and plundered, while the Emperor, with his wife and some of the chief lords of his court, were carried away into captivity. There were many, it is said, who avoided this melancholy fate, by putting an end to their own existence, which is not even now an uncommon practice amongst the Chinese, under any misfortune from which there is no other hope of escape. The Tartar prince, who was called King, or Khan of the Kin, fixed his residence at Honan, so that there were two distinct kingdoms in China; the Tartars keeping possession of the northern, and the Chinese of the southern provinces, where the court was sometimes held at Nanking and sometimes at Hong-chaw-fou, the ancient capital."

The two nations carried on wars, and reduced the country to the greatest distress, in the midst of which Zinghis Khan, whose original name was Temudgin, came in with his Moguls, and with fire and sword, put both nations under his feet. He was very young when his father died, and many of his subjects deserted his standard, until he became more successful in his expeditions, when they again increased. He married the daughter of the Great Khan, whose real name was Vang, but who is the same as he who is called in history, Prester John, or Priest John, in consequence of its being supposed that he was friendly to Christianity.

"It is said that in the first expedition he burned down as many as ninety cities in the north of China—put to the sword many thousands of the inhabitants, and carried away vast numbers of both sexes into slavery. The emperor of Cathay, then offered terms of peace, which were accepted by the conqueror, who received, as the price of his forbearance from all further hostilities, immense treasures in gold silks, horses and slaves He then withdrew his army, but it was not long before he commenced a new invasion, which put an end to the empire of the Kin, and established that of the Moguls in the north of China On this occasion the invaders laid siege to the ancient city of Zea-king, which stood nearly on the site of the modern Pekin, and had become the capital of the kingdom of Cathay, as the Tartar kings had, during their wars with the Chinese sovereigns, found it expedient to remove their court from Honan Zea-king was stormed and taken after a long and desperate resistance, during which the inhabitants were reduced by famine to the last extremity; and when the conquerors entered, they immediately set fire to the Imperial palace, from which however, the king had fled before the commencement of the siege."

On the death of this destroyer of the human race, Octai, his successor, carried on war against the Kin, whose sovereign killed himself in despair, and his subjects having fled into their native deserts, founded the tribe of Mantchoos, who afterwards conquered China, and who still govern it.

The First Twelve Psalms in Hebrew, with Latin Version, Pronunciation, and Grammatical Praxis; to which is Appended, a Grammar of the Hebrew Language. By the Rev. Wm. Baillie, LL.D. Dublin: Machen and Co.

THE increased attention which is bestowed on the study of the Hebrew language both in college, in public seminaries, and in private families, renders every new assistance which can be obtained an object of interest. In the beautifully printed volume before us, we have an assistant which cannot fail of being acceptable to those who wish to pursue the study of this ancient and sacred language. Not the least part of its recommendation consists in its freedom from mistakes, with which Hebrew books in general abound; for unless the eye be long accustomed to examine the Hebrew character, it is almost impossible to avoid typographical errors. The security that such are avoided is most satisfactorily announced in the following extract from the introduction to the book:—

"The author's removal to a distance from Dublin just as the work was ready for publication, induced him to entrust the manuscript to Mr. Benmohul, of Trinity College, Dublin, to whom he feels indebted for a vigilant superintendance of the press, and for many interesting and useful observations."

The success which has attended the establishment of prizes in Hebrew by the University Board in 1794, has given a stimulus to the study of this language which we are sure would never have otherwise existed. The printing of the Hebrew words in English letters in this work is also a great advantage to the student, who is thus secured from wrong pronunciation in the absence of his teacher. In short, for completeness of plan, and beauty of execution, we have never seen a Hebrew book to surpass it, and we do not hesitate cordially to recommend it.

Evenings at Home, or Juvenile Budget opened. By Dr. Aikin and Mrs. Barbauld. Cornish, London, Liverpool, and 18 Grafton-street, Dublin.

THIS work is so well known, that it would be superfluous to recommend it, farther than to say that it contains agreeable information for young persons in a pleasing and instructive form. The tales have a moral tendency, and amongst other things they contrast the advantages of peace with the disadvantages of war. There is much of the essence of natural history, and many notices of arts and manufactures, conveyed in these amusing tales, described in such a way as to be very attractive to young persons. The present edition has several plates, and is very portable.

Literary & Scientific Meetings, &c.

PROCEEDINGS OF THE ROYAL IRISH ACADEMY.

MR. CHARLES T. WEBBER presented to the Academy an ancient stone, on which is carved a rude bas-relief, supposed to be the representation of a dog killing a wolf. Mr. Webber accompanied the present with a communication, to the effect that the stone was taken from the Castle of Ardnaglass in the Barony of Tireragh, and County of Sligo, and was said to commemorate the destruction of the last wolf in Ireland. The current tradition in the place from whence it came was, that some years after it was supposed that the race of wolves was extinct, the flocks in the County of Leitrim were attacked by a wild animal which turned out to be a wolf; that thereupon the Chieftains of Leitrim, applied to O'Dowd, the Chieftain of Tireragh (who possessed a celebrated dog of the breed Irish wolf-dog), to come and hunt the wolf; which application being complied with by O'Dowd, there ensued a chase, which forms the subject of an ancient Irish legend, detailing the various districts through which it was pursued, until at length the wolf was taken and killed in a small wood of pine trees, at the foot of one of the mountains in Tireragh. The quarter of land on which the wolf was killed, is to this day called *Carrow na Madhoo*, which means *the dogs' quarter.* In commemoration of the event, O'Dowd had a representation of it carved on the stone, and placed it in the wall of his baronial residence.

MR. LLOYD exhibited to the meeting a specimen of a remarkable substance recently found in the principality of Carolath, in Silicia. It formed part of a cloth of two hundred square feet in surface, now in the possession of the King of Prussia. No description of this substance has yet been published; but Major Sabine and Mr. Lloyd were informed by Baron Humboldt, (by whom the present specimen was kindly given) that Mr. Ehrenberg had examined it microscopically, and had found it to be an organic substance, consisting partly of vegetable and partly of animal matter; the vegetable component being the *conferva rivularis*, the animal different species of Infusoria, of the family known by the name of *Bacillaria*. To illustrate the origin of this substance, Mr. Lloyd read the following note from Major Sabine, respecting a similar body which has been examined and described by M. Ehrenberg.

"In the year 1686, some workmen who had been fetching water from a pond seven miles from Memel on returning to their work after dinner, (during which there had been a snow-storm) found the flat ground around the pond, covered with a coal-black, leafy or paper-like mass; and a person who lived near, said he had seen it fall like flakes with the snow. On examination, some of the pieces were found to be as large as a table, and were lying upon each other to the depth of the thickness of a finger. The mass was damp and smelt disagreeably, like rotten seaweed; but when dried the smell went off. It tore fibrously like paper. Specimens were preserved in several collections, where it was known by the name of *meteor-paper*, and by many was actually supposed to be a meteoric body. It has been recently examined by M. Ehrenberg, and found to consist partly of vegetable matter, chiefly *conferva crispata*, common in Germany, and partly of *infusoria*, twenty-nine species. Of these eight species have silicious coverings, but the others which are equally well preserved, were soft skinned animals—most of them are known as species now existing. The meteor paper, therefore, as it has been called, was formed in marshy places, had been raised into the air by storms of wind, and had fallen again. Substances of the same nature have been found in Norway, in Silicia, and in the Erz mountains. In some instances they are described as *leathery*; in others as resembling *wadding*; and being white on the upper side, and green beneath. They have probably all a similar origin."

Mr. Lloyd also laid on the table of the Academy, a specimen of a very similar substance, which he had received from Sir John Herschel, and which was found intersecting the rocks at the mouth of one of the rivers of South Africa: it resembles the other very much in external appearance, except that the fibres are coarser, and more compactly matted together. It appears to consist almost entirely of confervæ, but apparently of a different species.

At a subsequent meeting, Dr. Robinson presented a specimen of meteor paper, similar to that of Carolath, which he had received from the Countess of Caledon, with a notice of the circumstances of its formation. It was found, covering a considerable tract of meadow land, the property of Lord Radnor, in Gloucestershire. The tract of country between Lesblade and Farringdon is flooded by the Isis every spring. When the waters subsided, the surface of the ground was covered with this substance to such an extent as to make its removal and destruction necessary to permit the growth of the grass; some of the pieces covering ten and twelve acres in continuous and unbroken sheets. Nothing of the kind had been noticed before by the oldest farmers. Portions of it were found on land which had not been under water. It is denser than Dr. Robinson had seen, and contains a larger proportion of the shields of infusoria; but the tissue is composed chiefly of the conferva rivularis.

ROYAL AGRICULTURAL SOCIETY.

From the Annual Report just published, we extract the following notice of the first Annual Exhibition at Cork:—

"As a proof of the easy and satisfactory terms upon which the Cattle Show was held, and as an example and encouragement to future meetings of the kind, it appears by the last Report of the County of Cork Farming Society that the entire expenditure of the meeting, incurred by them, amounted to £1009, 1*s*. 6*d*. That the local subscriptions for the show amounted to £730, 8*s*. and that £335, 16*s*. 6*d*. were received for admission at the gates, on the day of the show; these, with a sum of £43, 5*s*. 2*d*. arising from the sale of timber, amounted to £1,118, 12*s*. 10*d*. the total amount of receipts, thereby leaving a balance over the expenditure of £109, 11*s*. 9*d*. to the credit of the County of Cork Society, which has since been applied towards the foundation of an Agricultural Museum in that city.

"It appears also that the different entertainments paid for themselves, by the sale and disposal of tickets, leaving ample remuneration to the parties interested for the great expenditure they had incurred and the extensive nature of their preparations. On the whole the Council have every reason to be satisfied at the success of their first Meeting, and at the way in which their original views were borne out for arranging and conducting it."

ROYAL DUBLIN SOCIETY'S BOTANIC GARDENS, AT GLASNEVIN.

Amongst the valuable and rare plants here cultivated, are the following:—The Banana, Musa Sapientium, is considered merely a variety of the plantain; its fruit is much more luscious and agreeable than that produced by the latter; hence it is more generally esteemed in the ripe state. The fruit of both is produced on a sort of *raceme*, which hangs down from amongst the footstalks of the leaves at the top of the stem. These bunches of fruit are frequently upwards of sixty pounds weight; they are generally cut off as soon as the undermost, or rather uppermost fruit begins to ripen; they are then hung up in the dwellings of the negroes, producing many ripe bananas daily in succession, for a considerable length of time; presenting to us, and we hope also to them, a remarkable instance of the wisdom and goodness of Him from whom such blessings flow.

The stems of these majestic inhabitants of the jungle, we are informed, afford the most delicious feasts to the elephant and rhinoceros, which are said to dissect them with amazing celerity. Some of the species are remarkable for the richness of the colouring of their floral envelopes, the bracteas; the flowers themselves being, compared with the plants, very insignificant. This genus forms what is called by botanists, the type of the natural order, Musaceæ. They belong to the Linnæan class, Hexandria, and in natural arrangement are nearly related to the ginger tribe, Scitamineæ.

There are also to be seen here two very fine specimens of the Egyptian Papyrus—Papyrus Antiquorum, a plant belonging to the sedge family, and striking not only in its habits, but more so, on account of its history. From this plant the ancients prepared their rolls of paper, and although the exact process of making it is now unknown, it is supposed that the following may have been the method: "The thick part of the stalk being cut in half, the pellicle between the pith and the bark, or perhaps the two pellicles, were stripped off and divided by an iron instrument. This was squared at the edges, so as to be like a ribband, then laid upon a smooth table, after being cut into the length required. These stripes or ribbands were lapped over each other by a very thin border, and then pieces of the same kind were laid transversely, their length answering to the breadth of the first. A weight was laid on these, while moist, and they were then left to dry in the sun." It has been remarked by the celebrated traveller Bruce, that the Papyrus always presents one of the angles of its triangular stem to the current of the stream in which it is found growing, mentioning particularly the River Jordan. This plant abounds in the swamps of the Nile. In Abyssinia, the natives are said to construct boats of it; and in ancient times, ropes and cables for shipping were made from its stems.—*Visiter's Companion to the Botanic Gardens.*

Agriculture.

VEGETABLES.

"In recommending drill culture for the vegetable garden, it may be necessary to point out in what its superiority consists.

We would say there is a greater facility afforded in the putting in and taking out of crops, and it has a much better appearance. Nothing can look handsomer in garden culture than the drill system.

It gives a greater facility in thinning, moulding and hoeing the plants at proper distances, consequently having them in greater perfection. These indispensable requisites cannot be complied with in the lazy or flat-bed system; the seed and plants must remain as they are, so far as moulding and scuffling between them during the season. These are some of the many reasons why the drill is superior to the flat-bed system.

We may further demonstrate this by practically giving the rotation of crops that occur during the year, and their successions and rotations.

Crops can be raised between the drills of asparagus.

Beans—the early beans sown for an early crop, say in October—York cabbages and cauliflowers alternately can be raised with great success from between them; the former will be off in May, and can be succeeded by the same or cauliflowers; the latter will be off in June or July, and may be succeeded by brocoli or celery, with either of which a line of coss lettuce may be put out. The lettuce will be off in time to mould the celery.

In the space between artichokes dwarf York can be grown; the former afford shelter to the latter.

Beet seed can be sown where York cabbage has been cut off in May.

Brocoli and the other kails can be put down where early cabbage has been cut off.

As there is a larger space between Brussels sprouts, borecale or other kail can be put between them, and cut away for first consumption.

In putting out brocoli, dwarf York, or any of the kail tribe, can be put between them and cut away before any injury can be sustained by the former.

Kidney beans may be put down in May, where early lettuce or cabbage has been cut off.

Brocoli plants may be put out where early peas and beans have been taken away.

The cauliflower, to come in at September, may be planted out where a crop of early cabbage has stood, or where late brocoli has been cut away.

Drills of coss lettuce may be taken from between carrots and parsnips up to May. An alternate drill of carrots and parsnips does very well.

From between the drills of kidney beans, spinach or radish may be taken with success.

Drills of early turnips can be with advantage taken from between early peas and beans.

Where onions have been drawn is a good place for winter lettuce or to transplant spinach.

Where early beans have been sown in October, the space between them affords good shelter for early peas sown in February or March.

Crops of early radish can be taken from between early spinach.

Dutch turnips, when sown in February and March will be off in June, they may be succeeded by stone turnips; the latter may be off in September, and may be succeeded by kail and dwarf York.

Nonpareil cabbage put down in November will be off in May; it may be replaced by stone turnips, which will be off in September; the latter replaced by kail, or nonpareil, or Wellington cabbages.

Cauliflowers cut in June can be replaced by the same, to come in at September and October, or by celery; the celery replaced by early York, nonpareil, or Wellington cabbages.

Brocoli may be put down between dwarf kidney beans.

Onions sown in Autumn and raised in June can be replaced by celery, and coss lettuce at each side of them. The lettuce will be off in time to mould the celery.

I have stated these few instances to show that the drill culture when applied to garden purposes, affords a greater facility to speedy cropping than the flat bed system. It is surprising what a quantity of vegetables can be raised on a small space by drilling. I am free to admit it implies a very close attention and foresight—having the necessary plants at hand to put down as soon as the crop be removed, and *having always ready for use a well turned heap of rich manure, and plenty of it.* If by such auxiliary we can realize three crops in the twelve months, will they not amply repay for the additional expense and trouble we may have? add to this a full and constant supply of well-grown wholesome vegetables."—*Duff's Vegetable Garden*

FORK CULTIVATION.

To the Editor of the Mark-lane Express.

Sir—Having lately published in your journal a proof of the value of fork cultivation, compared with that of ploughs and harrows—the produce of carrots and mangold, being 37 tons of the former, and 30 of the latter, whilst Swedes gave only 20 tons per acre. I request the insertion of the following letter, received yesterday from my grieve, on Conan farm, confirming, by the clearest evidence, the superiority of forks over the plough and harrows. Curious enough, this field to which he alludes, 23 English acres, had ever given most luxuriant crops, and been (the greater part) longer in cultivation, being old glebe land, cropped by the monks of former days, than any other part of my farm. He writes as follows:—

"I have often seen quicken weeds pretty thick on a field, but never saw one heap for every twenty that the forks have turned out of church field. It is perfectly beyond description or imagination, unless you can conceive that cart loads of weeds were laid down one yard only apart from each other all over the field. It is now as clean as the best cultivated garden, and these weeds will, when saturated with liquid manure, be amply sufficient, after a little fermentation, to manure at least fifty acres for any kind of crop wanted."

Thus weeds are very profitable when used with discretion. I am a friend to weeds, and hope to try them on our model farms now about to be established with the sanction of our Royal Agricultural Society.

F. A. Mackenzie.

Steven's Hotel, Bond-street, April 21.

Ripening of Wall Fruit.—It is a law which chemists have discovered and enrolled in the code of nature, that "the deeper the colour of any opaque body, the greater is the rise of temperature which it experiences: or in other words, the more heat does it absorb, by exposure to the sun's rays or other sources of heat." Thus black becomes the hottest in a given space of time, then blue, green, red, yellow, and white, in their given order. This has been demonstrated by the experiments of Franklin and Davy. Taking the hint from this page of philosophy, Mr. H. Davies of Slough, has published the result of an experiment, for facilitating the ripening of wall fruit, by covering the wall with black paint. The experiment was tried on a vine, and it is stated that the weight of grapes gathered from the blackened part of the wall was 20lb. 1oz; while the plain part yielded only 7lb. 1oz., being little more than one-third of the other. The fruit on the blackened part was also much finer, the bunches larger, and ripened better than on that which was left plain; the wood of the vine was likewise more vigorous and covered with leaves.

Substitute for Glazed Frames in Hot-beds.—In the *Rheinlandische Gartenzeitung*, is described a substitute for the glazed frames of hot-beds and green-houses, which deserves the attention of florists. Instead of glass the frames are covered with a fine white cloth of cotton. In order to render this more transparent, and enable it to resist moisture, it is covered with a preparation, the ingredients of which are four ounces of pulverized dry white cheese, two ounces of white slack lime, and four ounces of boiled linseed oil. These three ingredients having been mixed with each other, four ounces of the white of eggs, and as much of the yolk are added, and the mixture is then made liquid by heating. The oil combines easily with the other ingredients, and the varnish remains pliable and quite transparent. The expence of a forcing bed arranged in this manner is inconsiderable, and it yields at the same time, many other advantages. Such a hot-bed needs not the anxious attention required by the ordinary one covered with glazed frames. During the strongest rays of the mid-day sun, they do not require any particular covering or shade; the atmosphere therein preserves a nearly equable temperature almost the whole day, and requires only to be changed from time to time according to circumstances. If such a bed is provided with a soil of horse-dung, and a proper thickness of some fertile, finely-sifted heath-mould is spread thereon, layers of all sorts of flowers, early vegetables, and other plants, may be reared from seeds in it.

Leibeg's Compost Manure.—This distinguished chemist gives the following prescription for preparing a compost manure, which is adapted to furnish all the unorganic matters to wheat, oats, and barley; it is made by mixing equal parts of bone dust, and a solution of silicate of potash, (known as *soluble glass* in commerce) allowing this mixture to dry in the air, and then adding ten or twelve parts of gypsum with twelve parts of common salt. Such a compost would render unnecessary the animal manures, which act by their inorganic ingredients. The silicate of potash employed in the preparation of the compost, must not deliquesce on exposure to the air, but must give a gelatinous consistence to the water in which it is dissolved, and dry to a white powder by exposure. It is only attractive of moisture when an excess of potash is present, which is apt to exert an injurious influence upon the tender roots of plants. In those places where silicate of potash cannot be procured, a sufficiency of wood-ashes will supply its place.

Poetry.

THE LATE THOMAS PRINGLE.

Our recollections of this estimable man have been afresh awakened by meeting with the pathetic piece of his poetry which we insert below. The event occurred whilst he resided in Africa. His connection with the London Anti-Slavery Society as its Secretary for several years, whilst it was using its strenuous exertions to obtain its desirable object, brought forward his character prominently before the public, and it is not too much to say of him, that as a member of a private family or as a citizen of our free state, few, if any, have surpassed him. He was a native of Scotland, and removed in 1820 to Africa, when the government encouraged emigrants to that interesting portion of its colonies. His description of the natural history and scenery of Africa, are considered to throw more light upon the subject than most other writers, and are quoted as the best authority. He died in England in 1835, just as he was preparing for a voyage to the Cape of Good Hope, to endeavour to establish his shattered health. He was ever the unflinching and compassionate friend to the oppressed of every clime, but especially to the ill-used children of Africa. We shall probably give some further notices of his labours in a subsequent number.

THE BECHUANA BOY.

"I sat at noontide in my tent,
And looked across the desert dun
Beneath the cloudless firmament
Far gleaming in the sun,
When from the bosom of the waste
A swarthy stripling came in haste,
With foot unshod and naked limb;
And a tame springbok followed him.

"With open aspect, frank yet bland,
And with a modest mien he stood,
Caressing with a gentle hand
That beast of gentle brood;
Then meekly gazing in my face,
Said in the language of his race,
With smiling look yet pensive tone,
"Stranger—I'm in the world alone!"*

"Poor boy!" I said, "thy native home
Lies far beyond the Stormberg blue:
Why hast thou left it, boy! to roam
This desolate Karroo?"
His face grew sadder while I spoke;
The smile forsook it; and he broke
Short silence with a sob-like sigh,
And told his hapless history.

* "*Ik ben alleenig in de waereld!*" (I am alone in the world) was the touching expression of Marossi, the Bechuana orphan boy in his broken Dutch, when he first accidentally fell under my protection, at Milk River, in Camdeboo, in September, 1825. He was then apparently nine or ten years of age, and had been carried away from his native country by the Bergenaars. He was sold to a Boor (for an old jacket) only a few months previously, when the kraal or hamlet of his tribe had been sacked by those banditti, in the manner described in the text. This little African accompanied my wife and me to England; and with the gradual development of his feelings and faculties he became interesting to us in no ordinary degree. He was indeed a remarkable child. With a great flow of animal spirits and natural hilarity, he was at the same time docile, observant, and reflective, and always unselfishly considerate of others. He was of a singularly ingenuous and affectionate disposition: and in proportion as his reason expanded, his heart became daily more imbued with the genuine spirit of the Gospel, insomuch that all who knew him, involuntarily and with one consent, applied to this African boy the benignant words of our Saviour—'of such is the kingdom of heaven.' He was baptised in 1827, and took on himself (in conjunction with Mrs. P. and me) his baptismal vows, in the most devout and sensible manner. Shortly afterwards he died of a pulmonary complaint under which he had for many months suffered with exemplary patience.

(*The Bechuana Boy.*)

"I have no home!" replied the boy:
"The Bergenaars—by night they came,
And raised their wolfish howl of joy,
While o'er our huts the flame
Resistless rushed; and aye their yell
Pealed louder as our warriors fell
In helpless heaps beneath their shot:
One living man they left us not!

"The slaughter o'er, they gave the slain
To feast the foul-beaked birds of prey;
And, with our herds, across the plain
They hurried us away—
The widowed mothers and their brood,
Oft in despair, for drink and food
We vainly cried; they heeded not,
But with sharp lash the captive smote.

"Three days we tracked that dreary wild,
Where thirst and anguish pressed us sore;
And many a mother and her child
Lay down to rise no more.
Behind us, on the desert brown,
We saw the vultures swooping down:
And heard, as the grim night was falling,
The wolf to his gorged comrade calling.

"At length was heard a river sounding
'Midst that dry and dismal land,
And, like a troop of wild deer bounding,
We hurried to its strand—
Among the maddened cattle rushing;
They crowd behind still forward pushing,
Till in the flood our limbs were drenched,
And the fierce rage of thirst was quenched.

"Hoarse-roaring, dark, the broad Gareep
In turbid streams was sweeping fast,
Huge sea-cows in its eddies deep
Loud snorting as we passed;
But that relentless robber clan
Right through those waters wild and wan
Drove on like sheep our wearied band:
—Some never reached the farther strand.

"All shivering from the foaming flood,
We stood upon the stranger's ground,
When, with proud looks and gestures rude,
The white men gathered round:
And there, like cattle from the fold,
By Christians we were bought and sold,
'Midst laughter loud and looks of scorn—
And roughly from each other torn.

"My mother's scream, so long and shrill,
My little sister's wailing cry,
(In dreams I often hear them still!)
Rose wildly to the sky.
A tiger's heart came to me then,
And fiercely on those ruthless men
I sprang.—Alas! dashed on the sand,
Bleeding, they bound me foot and hand.

"Away—away on prancing steeds
The stout man-stealers blithely go,
Through long low valleys fringed with reeds,
O'er mountains capped with snow,
Each with his captive, far and fast;
Until yon rock-bound ridge we passed,
And distant stripes of cultured soil
Bespoke the land of tears and toil.

"And tears and toil have been my lot
Since I the white man's thrall became,
And sorer griefs I wish forgot—
Harsh blows, and scorn, and shame!
Oh, Englishman! thou ne'er canst know
The injured bondman's bitter woe,
When round his breast like scorpions, cling
Black thoughts, that madden while they sting.

"Yet this hard fate I might have borne,
And taught in time my soul to bend,
Had my sad yearning heart forlorn
But found a single friend:
My race extinct or far removed,
The boor's rough brood I could have loved;
But each to whom my bosom turned
Even like a hound the black boy spurned.

"While, friendless thus, my master's flocks
I tended on the upland waste,
It chanced this fawn leapt from the rocks,
By wolfish wild dogs chased:
I rescued it, though wounded sore
And dabbled in its mother's gore;
And nursed it in a cavern wild,
Until it loved me like a child.

"Gently I nursed it; for I thought
(Its hapless fate so like to mine)
By good Utiko[*] it was brought
To bid me not repine—
Since in this world of wrong and ill
One creature lived that loved me still,
Although its dark and dazzling eye
Beamed not with human sympathy.

"Thus lived I, a lone orphan lad,
My task the proud Boor's flocks to tend;
And this poor fawn was all I had,
To love or call my friend;
When suddenly, with haughty look
And taunting words, that tyrant took
My playmate for his pampered boy,
Who envied me my only joy.

"High swelled my heart!—but when the star
Of midnight gleamed, I softly led
My bounding favourite forth, and far
Into the desert fled.
And here, from human kind exiled,
Three months on roots and berries wild
I've fared; and braved the beasts of prey,
To 'scape from spoilers worse than they.

"But yester morn a Bushman brought
The tidings that thy tents were near;
And now with hasty foot I've sought
Thy presence void of fear;
Because they say, O English chief,
Thou scornest not the captive's grief:
Then let me serve thee as thine own—
For I am in the world alone!"

Such was Marossi's touching tale.
Our breasts they were not made of stone:
His words, his winning looks prevail—
We took him for "our own."
And one, with woman's gentle art,
Unlocked the fountains of his heart;
And love gushed forth—till he became
Her child, in every thing but name.

[*] "Utiko, a term now in general use among many of the South African tribes for the supreme Being, is derived from the Hottentot word '*Tiko*,' which is said literally to signify 'The Beautiful.' It has been adopted by the missionaries to denote the true God."

LIFE'S PROGRESS

I dreamed—I saw a little child,
With flaxen ringlets, in a garden playing,
Now stopping here, and then afar off straying
As flower or butterfly his feet beguiled.
'Twas changed; one summer's day I stepp'd aside,
To let him pass: his face had manhood's seeming;
And that full eye of blue was fondly beaming,
On a fair maiden, whom he called "his Bride!"
Once more;—'twas evening, and the cheerful fire
I saw a group of youthful forms surrounding,
The room with harmless pleasantry responding;
And in the midst I marked the smiling sire.—
The heavens were clouded!—and I heard the tone
Of a slow moving bell;—the white-hair'd man was gone!

THE HYMN

CHAUNTED IN THE RUSSIAN CHURCHES DURING THE PROCESSION OF THE CUP.

See the glorious Cherubim
Thronging round the Eternal's throne;
Hark! they sing their holy hymn,
To the unknown Three in One,
"All supporting Deity—
Living Spirit—praise to Thee!"

Rest, ye wordly tumults, rest!
Here let all be peace and joy;
Grief no more shall rend our breast,
Tears no more shall dew our eye.

Heaven directed spirits rise
To the temple of the skies!
Join the ranks of angels bright,
Near th' Eternal's dazzling light.

ADDRESS TO VIRTUE.

(ORIGINAL.)

Hail, peaceful Virtue! since my earliest youth
I've looked upon thee as the fairest truth;
Thy ways seem'd beauteous to my youthful eyes,
And yet I see the World thy paths despise
The World—Ah! fleeting shade! which e'er repays
Its blinded vot'rys with envenomed bays;
But Virtue! thee, the more we tread thy road—
The more we taste the sweets thou hast bestow'd—
Beneath thy fost'ring wing, O let me live;
And when this pulse its last repeat shall give,
Then let me slumber in thy sweet embrace,
And waft my spirit to the Throne of Grace.

W. H.

EPITAPH

IN A CHURCH-YARD AT WISBEACH, CAMBRIDGESHIRE.

Beneath a sleeping infant lies;
To earth her body lent.
Hereafter shall more glorious rise,
But not more innocent.

And when the archangel's trump shall blow,
And souls to bodies join,
Millions will wish their lives below
Had been as short as thine.

Miscellanea.

CAPTAIN ROSS'S EXPEDITION.

[Parliamentary Paper.]

Return to an address of the House of Commons, moved for by Lord Ashley, dated August 26th, 1841, for copies of such extracts from the Despatch of Captain James Ross, from Van Dieman's Land, as will show the nature and extent of the brilliant discoveries which are said to have been made in a high Southern latitude by H. M. S. Erebus and Terror, and presented and ordered to be printed, Sept. 16th.

Extracts of a Despatch from Captain James C. Ross, of H. M. S. Erebus, dated Van Dieman's Land, April 7th, 1841, and addressed to the Secretary of the Admiralty:—

"I have the honour to acquaint you with the arrival her of Majesty's ship, under my command, and the Terror, under my orders, this afternoon at this port. I have further to report to you, for the information of my lords and commissioners of the Admiralty, that, in accordance with the intentions expressed in my despatch to you, dated from Hobart town on the 11th of November last, I proceeded to Auckland Islands, and satisfactorily accomplished a complete series of magnetometric observations on the important term-day of November last.

"Under all the circumstances, it appeared to me that it would conduce more to the advancement of that branch of science, for which the expedition has been more expressly sent forth, as well as for the extension of our geographical knowledge of the Antartic regions, to endeavour to penetrate to the Southward, or about the 170th degree of East longitude, by which the isodynamic oval and the point exactly between the two foci of greater magnetic intensity, might be passed over and determined, and directly between the tracks of the Russian navigator, Bellinghausen, and our own Captain James Cook; and after entering the antartic circle, to steer south-west towards the pole, rather than attempt to approach it directly from the north, on the unsuccessful footsteps of my predecessors.

"Accordingly on leaving Auckland Islands on the 12th of December, we proceeded to the Southward, touching for a few days at Campbell Island for magnetic purposes; and after passing among many icebergs to the southward of 63° latitude, we made the pack edge and entered the antartic circle on the 1st day of January, 1841.

"This pack presented none of those formidable characters which I had been led to expect, from the accounts of the Americans and the French; but the circumstances were sufficiently unfavourable to deter me from entering it at this time; and a gale from the northward interrupted our operations for three or four days. On the 5th of January we again made the pack, about one hundred miles to the eastward, in latitude 66° 45′ south, and longitude 174° 163′ E.; and although the wind was blowing directly on it, with a high sea running, we succeeded in entering it, without either of the ships sustaining any injury; and after penetrating a few miles we were enabled to make our way to the southward with comparative ease and safety.

"On the following three or four days our progress was rendered more difficult and tedious by thick fogs, light winds, a heavy swell, and almost constant snow showers; but, a strong water sky to the south-east, which was seen at every interval of clear weather encouraged us to persevere in that direction; and on the morning of the 9th, after sailing more than two hundred miles through this pack, we gained a perfectly clear sea, and bore away south-west towards the magnetic pole.

"On the morning of the 11th January, when in lat. 70° 41′ S. and long. 172° 36′, land was discovered at the distance, as it afterwards proved, of nearly one hundred miles, directly in the course we were steering, and, therefore directly between us and the pole. Although this circumstance was viewed at the time with considerable regret, as being likely to defeat one of the more important objects of the expedition, yet it restored to England the honour of the discovery of the southermost known land, which had been nobly won, and for more than twenty years possessed by Russia.

"Continuing our course towards this land for many hours, we seemed scarcely to approach it. It rose in lofty mountain-peaks of from 9,000 to 12,000 feet in height, perfectly covered with eternal snow; the glaciers that descended from near the mountain summits, projected many miles into the ocean, and presented a perpendicular face of lofty cliffs. As we neared the land some exposed patches of rock appeared; and steering towards a small bay for the purpose of effecting a landing, we found the shore so thickly lined for miles with bergs and pack-ice, and with a heavy swell dashing against it, that we were obliged to abandon our purpose and steer towards a more promising-looking point to the south-east, off which we observed several small islands; and on the morning of the 12th, I landed, accompanied by Commander Crozier, and a number of the officers of each ship, and took possession of the country in the name of her most gracious Majesty, Queen Victoria.

"The island on which we landed, is composed wholly of igneous rocks, numerous specimens of which, with other embedded minerals, were procured. It is in lat. 71° 56′ S. and long. 171° 7′ E.

"Observing that the east coast of the mainland tended to the southward, whilst the north shore took a north-west direction, I was led to hope, that by penetrating to the south as far as practicable, it might be possible to pass beyond the magnetic pole, which our combined observations placed in 76° south, nearly, and thence by steering westward, complete its circumnavigation. We accordingly pursued our course along this magnificent land; and on the 22nd of January we reached 74° 15′ south, the highest southern latitude that had ever been attained by any preceding navigator, and that by our own countryman, Captain James Weddell.

Although greatly impeded by strong southerly gales, thick fogs, and constant snowstorms, we continued the examination of the coast to the southward, and on the 27th, we again landed on an island in lat. 76° 8′ south, and 168° 12′ east, composed, as on the former occasion, entirely of igneous rocks.

"Still steering to the southward, early the next morning, the 28th, a mountain of 12,400 feet above the level of the sea, was seen emitting flame and smoke in splendid profusion. This magnificent volcano received the name of Mount Erebus. It is in lat.

77° 32' south, and long. 167° east; an extinct crater to the eastward of Mount Erebus, of a somewhat less elevation, was called Mount Terror. The mainland preserved its southerly tending, and we continued to follow it, until, in the afternoon, when close in with the land, our further progress in that direction was prevented by a barrier of ice stretching away from a projecting cape of the coast, directly to the east south-east. This extraordinary barrier presented a perpendicular face of at least one hundred and fifty, rising, of course, far above the mast heads of our ships, and completely concealing from our view everything beyond it, except only the tops of a range of very lofty mountains in a S.S.E. direction, and in lat. 79° south.

"Pursuing the examination of this splendid barrier to the eastward, we reached the latitude of 78° 4' south, the highest we were at any time able to attain, on the 2nd of February; and on the 9th, having traced its continuity to the longitude of 191° 23', in lat. 78° south, a distance of more than 300 miles, our further progress was prevented by a heavy pack, pressed close against the barrier, and the narrow lane of water by means of which we had penetrated thus far, became so completely covered by rapidly forming ice, that nothing but the strong breeze with which we were favoured, enabled us to retrace our steps. When at a distance of less than half a mile from its lofty icy cliffs, we had soundings within 318 fathoms on a bed of soft blue mud.

"With a temperature of 20° below the freezing point, we found the ice to form so rapidly on the surface, that any further examination of the barrier, in so extremely severe a period of the season being impracticable, we stood away to the westward, for the purpose of making another attempt to approach the magnetic pole, and again reached its latitude (76° south) on the 15th February; and although we found that much of the heavy ice had drifted away since our first attempt, and its place, in a great measure, supplied by recently formed ice, yet we made some way through it, and got a few miles nearer the pole than we had before been able to accomplish, when the heavy pack again frustated all our efforts, completely filling the space of fifteen or sixteen miles between us and the shore. We were this time in lat. 67° 12' S. and long. 164°, the dip being 88° 40', and variation 109° 24' east. We were of course only 160 miles from the pole. Had it been possible to approach any part of this coast, and have found any place of security for the ships, we might have travelled this short distance over the land; but this proved to be utterly impracticable, and although our hopes of complete attainment have not been realized, it is some satisfaction to feel assured, that we have approached the pole more nearly, by some hundred miles, than any of our predecessors; and from the multitude of observations that have been made in both ships, and in so many different directions from it, its position can be determined with nearly as much accuracy as if we had actually reached the spot itself.

"It had ever been an object of anxious desire with us, to find a harbour for the ships, so as to enable us to make simultaneous observations, with the numerous observatories that would be at work on the important term day of the 28th of February, as well as for other scientific purposes; but every part of the coast where indentations appeared, and where harbours on other shores usually occur, we found so perfectly filled with perennial ice of many hundred feet in thickness, that all our endeavours to find a place of shelter for our vessels were quite unavailing.

"Having now completed all that it appeared to me possible to accomplish in so high a latitude, and at so advanced a period of the season, and desirous to obtain as much information as possible of the extent and form of the coast we had discovered, as also to guide in some measure our future operations, I bore away on the 18th of February for the north part of this land, and which, by favour of a strong southerly gale, we reached on the morning of the 21st.

"We again endeavoured to effect a landing on this part of the coast, and were again defeated in our attempt by the heavy pack, which extended for many miles from the shore, and rendered it impossible.

"The great southern land we have discovered, whose continuity we have traced from nearly the 70th to the 79th degree of latitude, I am desirous to distinguish by the name of our most gracious Majesty Queen Victoria.

Following the edge of the pack to the north-west, as weather permitted, we found it to occupy the whole space between the north-west shore of the great southern land, and the chain of islands lying near the antarctic circle, first discovered by Balleny, in 1839, and more extensively explored by the American and French expeditions in the following year.

"Continuing our course to the westward, we approached the place where Professor Gauss supposed the magnetic pole to be, and having obtained all the observations that were necessary to prove the inaccuracy of that supposition, we devoted some days to the investigation of the line of no variation; and having completed a series of observations, by which the isodynamic lines and point of greater magnetic intensity may be determined, and which I had left incomplete last year, I bore away on the 4th of April for this port.

A chart, showing more plainly the discoveries and track of the expedition, is herewith transmitted; and a more detailed plan, containing all magnetic determinations, shall be sent as soon as they are reduced.

"I have much satisfaction in being able to add, that the service has been accomplished without the occurrence of any casualty, calamity, or disease of any kind; and there is not a single individual in either of the ships on the sick list.

"It affords me the highest gratification to acquaint you, that I have received the most cordial and efficient co-operation from my well-tried friend and colleague, Commander Crozier, of the Terror, and no terms of admiration that I can employ, can do justice to his great merit; nor have the zeal and persevering devotion of the officers of both ships been less conspicuous, under circumstances of no ordinary trial and difficulty; and whilst the conduct of our crews has been such as to reflect the highest honour on their characters as British sailors, it has given to myself, Commander Crozier, and the officers of the expedition, the most confident assurance of more extended success in pursuing the important duties we have yet to fulfil."

NORTH AMERICAN INDIANS.

In our last number, we gave a letter from an Irish gentleman in New York, as to the condition of the Seneca tribe of Indians who were dispossessed of their lands by the Americans. This tribe is not the only one which has similar reason to complain. We here present to our readers a most eloquent, and touching, and argumentative address of an Indian chief, delivered 38 years ago, as it embodies all that could be said upon the subject, and it contains *moral sentiments*, such as are not always to be found in the addresses of Christian teachers.

Reply to the Address of a Missionary, at a Council of the Chiefs of the Six Nations, in 1805. By Sagnym Whathah, alias Red Jacket.—*Philanthropist.*

Friend and Brother!—It was the will of the Great Spirit, that we should meet together this day. He orders all things; and has given us a fine day for our council. He has taken his garment from before the sun, and caused it to shine with brightness upon us. Our eyes are opened that we see clearly; our ears are unstopped, that we have been able to hear distinctly the words you have spoken. For all these favours we thank the Great Spirit, and him only.

Brother!—Listen to what we say. There was a time when our forefathers owned this great island. Their seats extended from the rising to the setting sun: the Great Spirit had made it for the use of the Indians. He had created the buffalo, the deer, and other animals for food. He had made the bear and the beaver; their skins served us for clothing. He had scattered them over the country, and taught us how to take them. He had caused the earth to produce corn for bread. All this he had done for his red children, because he loved them. If we had disputes about our hunting-ground, they were generally settled without the shedding of much blood. But an evil day came upon us; your forefathers crossed the great waters, and landed on this island; their numbers were small: they found us friends and not enemies. They told us they had fled from their own country, through fear of wicked men, and had come here to enjoy their religion. They asked for a small seat; we took pity on them, and granted their request; and they sat down amongst us. We gave them corn and meat, and, in return, they gave us *poison*. The white people having now found our country, tidings were sent back, and more came amongst us; yet we did not fear them. We took them to be friends; they called us *brothers;* we believed them, and gave them a larger seat. At length their numbers so increased that they wanted more land; they wanted our country. Our eyes were opened, and we became uneasy. Wars took place: Indians were hired to fight against Indians, and many of our people were destroyed. They also distributed liquor amongst us, which has slain thousands.

Brother!—Once our seats were large, and yours were small. You have now become a great people, and we have scarcely a place left to spread our blankets. You have got our country, but, not satisfied, you want to force your religion upon us.

Brother!—Continue to listen. You say you are sent to instruct us how to worship the

Great Spirit agreeably to his mind; and that if we do not take hold of the religion which you teach, we shall be unhappy hereafter. How do we know this to be true. We understand that your religion is written in a book. If it was intended for us as well as you, why has not the Great Spirit given it to us; and not only to us, but why did he not give to our forefathers the knowledge of that book, with the means of rightly understanding it? We only know what you tell us about it; and having been so often deceived by the white people, how shall we believe what they say?

Brother!—You say there is but one way to worship and serve the Great Spirit. If there is but one religion, why do you white people differ so much about it? Why not all agree, as you can all read the book?

Brother!—We do not understand these things: we are told that your religion was given to your forefathers, and has been handed down from father to son. We also have a religion, which was given to *our* forefathers, and has been handed down to us: it teaches us *to be thankful for all favours received, to love each other, and be united: we never quarrel about religion.*

Brother!—The Great Spirit made us all; but he has made a great difference between his white and red children: he has given us different complexions and different customs. To you he has given the arts; to these he has not opened our eyes. Since he has made so great a difference between us in other things, why may he not have given us a different religion? The Great Spirit does right: he knows what is best for his children.

Brother!—We do not want to destroy your religion, or to take it from you. We only want to enjoy our own.

Brother!—We are told that you have been preaching to the white people in this place. These people are our neighbours. We will wait a little, and see what effect your preaching has had upon them. If we find it makes them honest, and less disposed to cheat Indians, we will then consider again of what you have said.

Brother!—You have now heard our answer, and this is all we have to say at present. As we are about to part, we will come and take you by the hand: and we hope the Great Spirit will protect you on your journey, and return you safe to your friends.

TAKING OF SERINGAPATAM.

THE public property which fell into the hands of the conquerors of Seringapatam was great beyond example; the jewels alone being valued at ten lacs of rupees, besides five hundred camel loads of muslin, shawls, rich cloths, and various kinds of merchandize. Colonel Wellesley who was appointed governor, took the most efficacious measures to protect the property of individuals, and repress every kind of excess; and so successful were his exertions, that in a few days those who had fled in a moment of terror, returned to their houses—the bazaars were opened, and traffic resumed its former activity. General Harris took special precautions for the protection of the immense stores of valuable articles contained in the palace, that it might be reserved for the army at large. Extensive ranges of galleries contained jewels set in gold, and formed into bracelets, rings, necklaces, aigrettes, plumes and other ornaments, besides a great quantity of gold plate, both solid, and in filagree. The precious gems belonging to the crown were kept in coffers deposited in dark rooms strongly secured. Another large apartment contained the silver plate—some pieces of which were richly inlaid with gold, and others with gold and jewels; amongst many massive articles of this metal, were found two elephant howdars, and in the hall of audience, a throne estimated at a lack of pagodas. The curious productions of art in ivory and other materials were innumerable. Warehouses of great extent were filled with the richest furniture—the most costly carpets, resplendent mirrors, telescopes of every size—beautiful porcelain, and glass-ware, sufficient to fill a mercantile magazine; besides repositories of curious and expensive fire-arms and swords—some of the latter most magnificently ornamented with gold and jewels. The arsenal contained nine hundred and twenty pieces of cannon, of which four hundred and forty-four were brass; and what must have excited no small surprise to Europeans, was an extensive library, containing many thousand volumes in manuscript, numbers of them richly adorned, and beautifully illuminated in the style of the Roman missals. This valuable part of the sultan's treasures was presented by the army to the Court of Directors.

The following curious particulars are extracted from a letter written by an officer present at the siege. As they convey a striking idea of Eastern magnificence, they cannot but prove interesting to the general reader, who will almost fancy that the splendid fables of the Arabian tales are converted into reality: "The plunder of the town was very great, and many of the soldiers, both native and European, possessed themselves of very precious effects in gold and jewels. The star and jewellery of Tippoo were presented by the army to the Earl of Mornington, and his war-turban and sword to Marquis Cornwallis. The sultan's throne being too unwieldy to be carried, was broken up; it was a howdar upon a tiger, covered with sheet gold; the ascent to it was by silver steps, gilt, having silver nails, and all the other fastenings of the same metal. The sheet of gold with which it was covered weighed forty thousand pagodas, and the silver work about it, the supporter of the canopy, and the fringe of pearls that went round it, were valued at ten thousand pagodas more. Every inch of the howdar contained an Arabic sentence, chiefly from the Koran, superbly stamped, being raised and polished in the most beautiful manner. A gold figure of a bird, covered over with precious stones, was screwed to the roof of the canopy; its beak was a large emerald—its eyes carbuncles; the breast and expanded wings covered with diamonds, and on the back were several large jewels fancifully disposed. The tail which resembled that of a peacock, was studded in the same manner; and the whole was arranged with such exquisite art as to imitate plumage, and so closely set, that the gold was scarcely visible.

"Tippoo's palace is described as one of the most magnificent buildings in India. The durbar or hall of audience, is open in front like a veranda, being forty feet in breadth, and seventy in length, supported by a great number of pillars. The inside of all the apartments is painted and gilt—some green and gold, and others white and gold: the rooms are furnished with silk carpets, paintings and mirrors. The paintings and mouldings are covered with cloth to preserve them from the weather; and the pillars which are very superb, are enclosed with quilted cases for the same purpose.

"One hundred and seventy-five camels, and 3,120 horses were found in the royal stables. The number of the state elephants, amounted to fifty-three—some of them extremely docile. These animals were never suffered to appear but upon extraordinary occasions, and then richly caparisoned with howdars of a light green cloth deeply fringed with gold. Three hundred tigers were found in a court-yard belonging to the palace—one of which was such a favourite of the sultan, that he was accustomed to be fed from his own hand, and even admitted to those familiarities with which the people of these countries usually treat their spaniels; to all others, however, this animal was so extremely ferocious that it was found necessary to shoot him; and this, with the exception of a few, reserved as curiosities, became the fate of the whole menagerie.

"Amidst this profusion of splendour, considerable disappointment was experienced on examining the apartments of the ladies, where it was rumoured a quantity of jewels was concealed. The females in the harem amounted to six hundred and fifty, including some of the wives and ladies of Hyder, and those of Tippoo's family with their attendants; but instead of elegant habitations, as the gentlemen expected who were deputed to execute this commission, they found places as filthy as the lowest or dirtiest dwelling in the bazaar: the furniture consisted only of a chair, a swing, two or three boxes of clothes, a miserable bed, and a shelf of perfumes, spices, &c. No valuable articles were found here, as it was afterwards discovered that Tippoo never entrusted his women with the keeping of their jewels.

"A soldier, soon after the capture of the city, went to the surgeon of his regiment with two caskets of jewels for which he demanded a thousand pagodas. The bargain was quickly made, and the jewels brought to Madras, where one casket sold for £20,000, and the other was considered so valuable that no purchaser could be found there. The doctor settled £200 per annum on the soldier, and has given many other proofs of his generosity and goodness of heart."—*Letter of an Officer.*

THE AERIAL STEAM CARRIAGE.

Mr. Henson's machine (which we shall describe anon) starts from the top of an inclined plane; before it reaches the bottom it acquires velocity so great that the impact of its extended wings on the air amply suffices for its support. To gain that impact on the under surface the machine advances with its front edge a little raised. We think this is perfectly analogous to the action of many birds; while they have the requisite forward velocity, the expanse of their pinions and breast, duly presented to the air in front, is sufficient, without the expenditure of muscular effort, to hinder their descent. But these very same easy sailing rooks show very different action when they start from the ground; then, every muscle is put into requisition, to sustain them while they get the necessary velocity, and it is by degrees, as their flight becomes swifter, that they can safely relax their efforts. Nor does it seem of much consequence how this velocity is obtained; some birds seem to help themselves by running along the ground before they rise, and others, with striking similarity to Mr. Henson's plan, will start from the top of a tree or the summit of a rock, by first making a large descent.

But neither the rook nor the machine can go far on this plan. The same resistance of the air which the velocity brings to act for their advantage in one way, acts against them, though much more feebly, in another; it sustains their weight, but it somewhat hinders their progress; and the speed of that progress being gradually diminished, the sustaining effect is so too, until at last the air no longer yields the requisite counteraction of the weight. To remedy this, the bird makes slight and easy strokes of its wings, which are so formed as to afford the necessary recruit of the decaying speed; just to the like effect Mr. Henson puts on board his aerial carriage a small and very ingenious steam-engine, which, by means of vanes or propellers, constantly countervails the forward resistance, and thus keeps up the original sustaining velocity.

Now let us contrast this mode of proceeding with that of preceding projectors. They have all judged it requisite to carry in the flying vehicle all the power necessary to its entire working. It did not occur to them that a certain degree of speed, united with an appropiate conformation of the front, would necessarily make the air sustain the carriage, and that to attain that velocity at starting required much more power than was requisite for afterwards maintaining it; they therefore always encumbered themselves with a weight either of animate or elemental power, so great that it could not possibly be carried. Mr. Henson does by far the greater part of his work before the machine leaves the ground, and he carries with him only the power necessary to accomplish the small remainder. The failure, therefore, of former attempts, is not only no reason for anticipating the like fate for this, but contrariwise, the clear detection and the effectual avoidance of the cause of former disappointments may justly induce us to calculate on success in the present instance.

From principles let us pass to dimensions and construction. The most striking part of the machine, and that which constitutes its greatest bulk, is a web, or expanse of gigantic proportions; it measures 150 feet from right to left, by 30 feet from back to front, and serves as wings so far as to sustain the body, but being perfectly jointless, and having none of the motion of wings, it does nothing towards maintaining the forward speed. This office is fulfilled by two sets of propellers, like windmill sails, of twenty feet in diameter, situated one on each side of the tail, and actuated by the steam-engine. The tail is fifty feet long, and is jointed to the middle of the hinder edge of the wings or main web: beneath this important appendage is a rudder, and by the united effects of both, the vessel is duly steered both for elevation and direction. All these parts are composed of frame work, remarkable for the skill and lightness of its construction, and covered with silk or linen.

To the middle of the wings or main frame, and touching its under surface, are suspended the car and steam-engine The former is entirely enclosed, and is quite capacious enough for the intended burden of the machine.

Besides the great lightness and simplicity of its parts, the steam-engine is remarkable for the novelty both of its boiler and its condenser; it is, indeed, by the singular skill with which he has constructed them, that Mr Henson has transformed the ponderous steam-engine into a contrivance fitted for traversing the regions of the air. The boiler consists of a number of hollow cones placed around and about the furnace, with their truncated points downwards. They are large and numerous enough to present about 100 square feet to the action of the fire, of which about half is exposed to radiating heat. It is calculated from satisfactory data, that it will supply steam equivalent to the power of twenty horses. The condenser is as original in its design: it consists of a considerable number of small pipes exposed to the rapid current of air produced by the flight of the machine. This device, which has been found perfectly efficient, avoids the necessity of carrying a large weight of water either to blow away in steam after being used, or to condense it. Our engineering friends will be somewhat surprised to learn that this condensing twenty-horse steam-engine is worked with but twenty gallons of water, and that its entire weight, water included, is but 600lb.

The weight of the machine, with its steam-engine, fuel, water, cargo, managers, and passengers, is estimated at 3000lb. The entire area of the sustaining surfaces is 4500 feet: the load is therefore two-thirds of a pound to the square foot; and since many birds are loaded much more heavily, it is fairly presumed that the limits of nature are here by no means overpassed.

So far there appears not a peg on which to hang a doubt of the inventor's success, so closely has he conformed to the example of nature and the dictates of established science. The only remaining doubt is that of the sufficiency of his steam-engine, to decide which science fails to help us; it must abide the result of trial.

To sum up the probabilities of Mr. Henson's success, we may justly say that he has avoided the fatal errors of his predecessors; he has adhered closely to the proceedings of nature; he has conformed exactly to the requisitions of science. On one point only are we without the means of strictly comparing his invention with previous contrivances and established results; on that sole remaining point he has strong probability on his side, and, if he should need them, other inventions stand ready with ample aid.—*Abridged from the Pictorial Times.*

STATISTICS OF THE FRENCH COLONIES.

The Minister of Marine has this year given tables of the population, culture, commerce, and navigation, extracted from the statistical notices of the French colonies.

In this work, a larger scope and greater usefulness has been attempted, and the contents of the several tables which have been published within these last five years may be found condensed in this publication. We give the following extracts from them:—

The extent of the population of the French colonies in America, Senegal, in the Isle of Bourbon, and in the East Indies, is estimated to have amounted, on the 31st of December, 1839, to 277,794 individuals of the male sex, and 277,731 females, of all ages, ranks, and colours.

In looking at this mass of population of 555,525 inhabitants, it will be seen that the sexes relatively are divided into pretty nearly two equal proportions, and it will be found that this classification of the sexes is worthy of some remark.

At Martinique we find amongst the free population 22,489 women, and 18,244 males; whilst the slaves are 39,106 women, and 35,277 men. At Guadaloupe, and its neighbouring islands, amongst the free people there are 19,323 women, and 17,037 males; and of slaves, 48,812 females, and almost 44,834 men At Bourbon, on the other hand, we find amongst the free population 19,058 males, and 18,667 females; but amongst the slaves the disproportion is infinitely greater, being 41,574 males to 24,439 females. In French Guiana amongst the free people the proportion is 3,123 women to 2,531 males; and with the slaves 8,154 men to 7,365 women. At Guadaloupe and Bourbon among the free people, and at Guadaloupe and Martinique among the slaves, the number of births is greater than that of deaths, but the contrary is remarked among the slaves in Guiana.

Very few marriages take place among the slaves, and the amount of such occurrences is said to have been during six years, from 1834 to 1839, upon an average, at Martinique 17, at Guadaloupe 12, and at Bourbon 0.

The slave colonies considered are Martinique, Guadaloupe, with their neighbouring islands, Guiana and Bourbon. There is also in the colonies of Senegal 973 Christians, and and 9,296 Mahometans, as would appear from the detailed returns of the year 1838. These figures also include the captives.

In the French settlements in the East Indies—namely, Pondicherry, Karikal, Yannan, and Mahe, are to be found a population of 167,760 souls, in families of European extraction. This includes as well civil as military personages. The number of individuals of both sexes is nearly equal. This population is made up of a few whites, mixed breeds, and what are known by the name of "Topaz," and which are reckoned amongst Europeans, being chiefly the issue of Portuguese with Indian women, and also of black natives, of which the number is believed to be about 90,000 head.

From the end of the year 1833 to 1340 the slave population of Bourbon, Martinique, Guadaloupe, and Guiana had fallen from 261,500 to 249,500 souls. But this diminution receives some explanation from the fact that in these six years the number of deaths had exceeded the births by 6,940 and that 12,850 free and manumitted slaves had come into the calculation; so that we are compelled to come to the conclusion that at the close of the year 1839, out of 249,500 slaves no more than 241,559 remained. It has, however, been declared that the slave proprietors have concealed the number of their slaves from interested motives, and that therefore they have, in many instances, made false returns.

In the foregoing colonies in the year 1834, the growth of sugar occupied nearly 41,567 hectares, which had increased in 1839 to nearly 60,508 hectares.

The production has been reckoned in the year 1841 to be about 90,814,661 kilogrammes of sugar, and 16,246,587 litres of syrup and molasses. In the year 1834, the production was 97.524,523 kilogrammes of sugar, and 17,323,629 litres of syrup and molasses, but the manufacture of rum, which in the year 1839 amounted to 5,628,000 litres, was in the year 1834 only 3,892,680 litres.

The cultivation of coffee, cotton wool, cocoa, tobacco, and food, was, in 1839, much larger than in 1834, which may account for the production of sugar being less. Many other branches of cultivation are also much diminished. Spices, which occupied 4,682 hectares, are fallen to 3,942 hectares; cocoa grounds are diminished from 1,172 to 754 hectares; pepper, from 330 to 114 hectares; cinnamon, nutmegs, and other spices, from 25 are fallen to 10 hectares.

The sea trade of the French colonies and fisheries in the year 1835 afforded employment to 1,321 ships of 186,930 tons and 12,618 men; and also delivered from the colonies 690,600 tons, in 1349 ships manned with 15,582 persons.

The total value of the French goods and food exported from France to her colonies in the year 1839 was 51,959,815f.; from other French colonies and fisheries, 4,952,117f.; and from other countries, 15,427,686f.; making a total of 72,349,618f.

The export of the colonies themselves in the same year was to France, 74,810,319f. to French fisheries and colonies, 4,805,205f.; and to other countries, 8,800,333f.; making a total of 88,415,857f.

The amount of imports and exports in the year 1839 was 160,765,745f.: whereof 43,402,099f, came from Martinique, 48,390,572f. from Guadaloupe, 40,285,253f. from Bourbon, 15,556,578f. from Senegal, 6,962, 355f. from Guiana, 6,168,618f. from St. Pierre and Miquelon; of which total sum the trade of the colonies with each other was 9,767,322f. from other countries 22,228,019f., and the remainder—namely, 126,770,134f., was the direct trade between France and her own colonies.

THE ALLIES IN PARIS.

Paris in 1815 was a complete Tower of Babel, for at least three parts of its inhabitants spoke in different tongues. There was, however, this striking difference between the Babylonian city and the Gallic one—that the crowd of people, instead of dispersing, as in the former case, became in the latter, every day more dense, and Paris seemed like the focus of an immense web, towards which insects from all quarters were irresistibly attracted. Comfortable accommodations were quite out of the question, for the people were jammed together like sheep coming to a market, and thousands absolutely lived upon the quays and boulevards, making their domicile in the open air. Luckily, comfort is a word of little importance in Paris; amusement is everything, and of that there was abundance. Never did a brilliant summer's sun shine on a greater variety of gorgeous costumes; gold, silver, and steel glittered in its beams, with colours—

> "Changeful as the rainbow's hue."

Alas! the happiness of the Parisians was almost as evanescent. Early in July, Blucher gave orders to blow up the bridges of Jena and Austerlitz; two mines were bored in the Champ de Mars, and the excavations were filled with powder. Despair took possession of every breast, and "notre belle ville,"—*our fine city*—uttered in a desponding tone, was heard on every side: it was like the daughters of Jerusalem, mourning over their fallen city; but the Duke of Wellington remonstrated, and just at the critical moment, the Emperor of Russia arriving to second him—Paris was saved; and the Parisians changing their cry, exclaimed in rapture—"*Vive les sauveurs de la France!*"—Long live the saviours of France.

On the 10th of July, the king went to mass at Notre Dame; the procession was grand and imposing, and the church filled to excess in a few minutes. After the ceremony, at least 30,000 people, moved *en masse*, towards the bridges, to see that they were safe; for the care with which the Parisians watched over these monuments of their glory, was like that of a fond mother brooding over her children; and then beginning to triumph, in the hope that Blucher would not dare to put his threats into execution, they turned their attention to their own pecuniary affairs. The British troops were encamped in the Bois de Bologne and the Champs Elysees, and towards this sure market, the prudent Parisians bent their steps. It was quite a holiday, and nothing could be prettier than the *ensemble* of the scene. The English had tastefully laid out their encampments in avenues, arcades, and leafy canopies; whilst with their usual national attention to comfort, they had contrived for themselves a thousand conveniences that the other troops never dreamed of; and as they met and mingled with the Parisian merchants, the whole looked like a moving wood, or splendid fete champétre. Rapid changes of feeling, were, however, the order of the day; and the very evening after this picturesque market, some skirmishing took place in the Boulevard de Temple, during which many Prussians were wounded, and some killed. This was called the Battle of the Pinks, from the circumstance of pinks being worn in the button-holes of the Buonapartists, and it was serious enough; though scarcely any notice of the affair was taken in the public journals, as the French press was then so crippled, that half Paris might have been massacred in silence. The next event which appalled the Parisians, was the information that Blucher had placed a strong guard over the Louvre; a precaution, rendered absolutely necessary, by the fact that the French, fearing lest they should be deprived of the treasures it contained, had actually succeeded in abstracting some of the most valuable of the cabinet pictures, and substituting copies in their stead. Retribution was at hand. It has been agreed by treaty, that all the works of art taken from other powers should be restored; and day after day, old Blucher was seen parading the gallery of the Louvre, catalogue in hand, calling over the pictures and statues, and condemning all that appeared foreign. The agony of the French artists was at its height; a thousand schemes were resorted to, in order to deceive the inexorable Prussian; but their ingenuity was in vain. He pierced through all their devices, and his decree was fate. "Down with that picture!"—"Remove that statue!" were the sole words that issued from his lips; and the Parisians were desperate. The climax of their woes was yet to come; they were condemned to assist in packing up the treasures, which they had shown that they valued far more than their liberty. Stifled groans burst from their lips, as they gazed for the last time upon the graceful forms of the Venus and the Apollo; and it was only the recollection of the bayonets of their enemies, and the cannon yet planted on the bridges, which restrained their wrath. They "sighed but dared not speak," still their cup of bitterness was not full. Orders were issued that the Venetian horses attached to the triumphal car in the Place du Carousel, should be taken down. The spirit of the nation was roused, and the French engineers declared, *en masse*, that it was impossible they could be removed. "*Ils seront abimes*," exclaimed they, "*et vous n'aurez que leur debris.*" However, the English staff corps attached to head quarters in Paris, undertook the task, and the following day, these splendid trophies of Grecian art, were lowered uninjured into waggons, in the presence of an imposing army of Austrians, drawn up to cover the operation. Whilst they were being taken down, no language can depict the expression betrayed in the countenances of the Parisians; they ground their teeth, and their eyes glistened with savage hatred. When the statues began to totter, they could bear no more; they clenched their hands, and curses, not loud but deep, burst from their quivering lips. There was something indescribably striking in this smothered fury, particularly when it was contrasted with the comparative indifference with which they had changed their sovereigns. This being remarked to a Frenchman, he made the following characteristic reply—"We *must* have lost our Emperor—in course of time by death—but we hoped to retain these monuments of our glory for *ever!*"

The French did not readily forgive the insult they had received; and it soon became dangerous to walk the streets after dark. Spies were planted in all the public places, hotels and cafés, and arrests were taking place every hour; however, the Parisians scowled gloomily as they passed the innumerable soldiers who thronged their streets, for depriving them of their stolen treasures was like striking Achilles on his heel. There alone they were vulnerable. "They were ours by conquest," said they. "And now they are ours by the same right," replies the Allies. The response was wormwood. The Emperor of Russia was the only person who retained his popularity, and he found the admiration he excited rather annoying; he was overwhelmed with deputations. The market-women implored him to protect their provisions from the merciless appetites of the soldiers; and the dealers in forage begged him to watch over their hay, straw and corn. He was the referee on all occasions, and in short, was so tormented by his admirers, that, like the Roman virgin, Tarpeia, or the Athenian Draco, he was in imminent danger of being smothered beneath the weight of their favours.

In the mean time the *lex talionis*, was being exercised with deserved rigour. A Prussian general, who lodged in the house of Marshal Ney, ordered his servant to select nine of the most valuable horses, and three carriages from the stables of the marshal, in order that they might be sent to Prussia. Ney's servants attempted to resist. "Why should you?" asked the General, coolly, "your master took the same number from me, when he was at Berlin!"

THE COMET.

We have been favoured with the following extract of a letter lately received from Port au Prince, in St. Domingo; it will interest the lovers of astronomy, many of whom were disappointed of a view of the interesting stranger in our climate of fogs and mists.

15th March.

"A comet was indistinctly seen by us on the 2nd of this month. It gradually brightened every evening. On the 7th I obtained the following observation of it, which might perhaps be very interesting to many you might fall in with. Latitude of place of observation, 18° 33′ 18″ N. longitude of do. 72° 17′, west of Greenwich. I will give you here the Greenwich mean time of each of my observations. Time, 11h. 51m. 50s. P.M. Observed distance between moon's nearest limb and the star of the comet, 55° 37′ 40″. Time, 11h. 54m. 56s. P.M. Observed distance between Sirius and star of comet, 83° 12′ 10.″ Time, 11h. 56m. 33s. P. M. Observed distance between Canopus and star of comet, 75° 25′ 40″. The tail of the comet, unlike other comets, is pointing upwards, and of an arch-like form, pointing in the direction of the star Sirius. The star at the commencement is very indistinct; its altitude is about 12°. Since the above time until this day I have not been able to get any observation, owing to the greater portion of it being obscured by the cloudy state of the atmosphere. Monday, 13th. The same place of observation. Bearing of comet (W. by S. magnetic) Greenwich mean time, 11h. 52m. 46s. Observed distance between the star of comet and Canopus, 66° 55′ 10″. Mean time, 11h. 54m. 46s. Distance star of comet and Sirius, 67° 01′ 40″. Mean time, 11h. 55m. 46s. Distance between star of comet and Aldeberan, 44° 26′ 30″. Mean time, 11h. 58m. 46s. Distance star of comet and moon's nearer limb, 113° 35′ 25″. The comet was at its greatest brightness on the 7th; since then it has been gradually decreasing. From the termination of the tail to the star, or commencement of it, it measures 28°. It has been remarked that during all the revolutions that have taken place here, a comet has always made its appearance. Observed altitude, 23° (approximate.)"

GLOSSARY OF CHEMICAL TERMS.

Fibrine.—The principal part of animal muscle, and the most abundant constituent of animal bodies; it is said to consist of carbon, oxygen, hydrogen, and azote, in certain proportions—it is the basis of flesh.

Gelatine.—The jelly produced by boiling animal muscles, skin, bones, tendons and membranes.

Gluten.—A constituent of wheat; it may be readily separated from the flour; is a tenacious, ductile, elastic substance; and when dried, becomes hard, brittle, glistening, and of a deep yellow or light brown colour.

Glycerine.—A sweet substance which may be extracted from fatty substances.

Hydrogen.—A gas which, with oxygen, in certain proportions, forms water, it is also present in atmospheric air.

Oxygen.—A gas void of taste, colour, or smell; it is always present in atmospheric air, and forms water when combined with hydrogen in given proportions.

Nitrogen.—A gas forming a large proportion of atmospheric air, it exists in flesh, and in some vegetable substances; when breathed without oxygen, it is fatal to animal life.

Sulphuric Acid (*Oil of Vitriol*).—It is obtained by burning sulphur, the suffocating vapour of which is readily absorbed by water; which water after further preparation forms the acid.

Muriatic Acid is produced by pouring sulphuric acid upon sea salt; the gas which arises, is made to pass through water, in which it is condensed and becomes muriatic acid.

Muriate of Ammonia is often found in a pure state, in the neighbourhood of volcanoes in Asia and in Africa; it is identical with the sal ammoniac of the shops; it is formed by the combination of muriatic acid with ammonia.

(To be continued.)

Curious Astronomical Theory.—We state the following on the authority of M. Arago, the eminent French astronomer:—If we place in a horizontal line a series of figures, of which the law is evidently each double the preceding—

0 3 6 12 24 48 96 192

and afterwards add four to each, we shall have a series denoting the relative distances of the planets from the sun: thus—

4 7 10 16 28 52 100 196

Mercury, Venus, Earth, Mars, Jupiter, Saturn, and Uranus. If ten represents the distance of the Earth, 4 will be that of Mercury, 7 Venus, 16 Mars, and 52, 100, and 196, the respective distances of Jupiter, Saturn, and Uranus. This law was known as far back as one hundred years before the discovery of Uranus: and the distance of that planet being found to correspond, affords a very remarkable confirmation of its truth. But it will be observed there will be a deficiency of one term between Mars and Jupiter, and nearly at the proportionable distance of 28 from the the Sun. This planet was named Ceres; and since, three others have been found—Pallas, Juno, and Vesta—all of which have their orbits so near to each other as lead astronomers to believe that they are fragments of a larger planet, which have been shattered into pieces by some internal explosion, or the shock of a comet.

Humble Origin of Eminent English Lawyers.—Lords Eldon and Stowell—sons of a barge-maker and small-coal dealer at Newcastle-under-Line. Lord Stowell borrowed £40 to go on the circuit, and both supported themselves for a time by their talents as private tutors. Lord Tenterden—son of a barber at Canterbury; he received an eleemosynary education, but obtained the means to go to college: while there he enjoyed from a company in the city of London an exhibition of £3 per annum until he got his degree. Some years since, in dining with the company, he very feelingly alluded to the circumstance, and expressed his gratitude. Lord Gifford—prior to his being called to the bar, articled to a solicitor near Exeter. His rise was chiefly owing to the Marquis Conyngham, to whom he was distantly related. Lord Langdale, Master of the Rolls—not very long since an accoucheur, and married a daughter of Lord Oxford, whose family he had attended. Sir John Williams one of the judges of the Queen's Bench—son of a horse-dealer in Yorkshire. Solicitor General Wylde—an attorney in the city, in co-partnership with Mr. Knight; his brother is now an attorney in College-hill, Broad-street, London. Mr. Sergeant Talford—son of a brewer at Reading, in Berkshire, received the rudiments of his education at the Protestant Dissenters' grammar school at Mill-hill, near Hendon, and at that time wrote for the public press. He completed his studies with Dr. Valpey, of Reading. Sir Frederick Pollock, and his brother Mr. David Pollock—the sons of a saddler of that name, now Messrs. Cuff's establishment, near Charing-cross. Mr. Baron Gurney—his mother kept a small book-shop for pamphlets in a court in the city; his brother is a shorthand writer to the House of Lords and Commons. The baron was originally of the denomination called Baptists, and for many years attended a Baptist chapel, in Maise Pond, in the Borough. Sir John Campbell, the Attorney-General, and son-in-law of Lord Abinger—reporter to a daily paper, at a time when such labour was worse paid than at present. Mr. Sergeant Spankie was one of his colleagues. James Stephen, Esq. the Master in Chancery—was also a reporter. Almost all the judges sent to the colonies were reporters—and of the present reporters for the daily papers the greater part are barristers. Mr. Wallace, M.P.—was a weaver. Sir E. Sugden—son of a barber, and formerly a clerk to Mr. Groom, conveyancer. It is remarkable that the admission of Sir Edward was opposed on the ground that he had been a clerk; and, but for the exertion of that most amiable man, and ornament to his profession, the late Mr. Hargrave, who contended for his admission, on the ground that, whatever he had been, he was a man of talent, and had written a book which displayed qualifications of a superior order, he would now have been anything but Sir Edward Burtenshaw Sugden, Chancellor of Ireland. Mr. Platt, Q. C.—son of a gentleman who was clerk to Lord Ellenborough. Mr. Petersdorff's father kept a furrier's shop. Mr. Clarkson, of the Old Bailey—his father was an attorney in the Insolvent Debtors' Court, on its first formation. Mr. Charlton, Queen's Council—his father is an attorney, and now in practice in Chancery-lane. These are only a few of the examples of modern times. The greater number, perhaps, of the departed members of the profession which became distinguished in their times, rose in the same manner. Chief Justice Saunders, whose Precepts to this day form the best text book to pleaders, was a beggar boy, first taken notice of by an attorney, who employed him in his office. Lord Kenyon—an attorney's clerk. Lord Hardwicke—a peasant, and afterwards an attorney's writer and office-boy. When Erskine and Curran once dined with the Prince of Wales, afterwards George IV. the Prince gave a toast—"The Bar." Erskine said he owed everything to the bar; and Curran added—"Then what must I say, since it has raised me from the condition of a peasant, to the table of my Prince?" Erskine, when first at the bar, was afraid to go to his chambers, lest he should encounter the ire of his washerwoman; he finally took courage, and entering the same, found to his infinite joy, a brief with twenty guineas by its side. The attorney who left the brief did so from a conviction of his great powers of eloquence, which he displayed while conversing with a knot of persons in Lincoln's Inn hall, and near to the spot where his statue now stands.

THE XANTHIAN MARBLES IN THE BRITISH MUSEUM.—Amongst the valuable, though, to the public taste, not the most attractive, additions to the contents of the British Museum, are the marbles brought from Licia, and which have been placed temporarily in the two rooms leading to the Elgin marbles. These treasures, not being as yet entered in the synopsis, or presenting to an ordinary observer no striking or remarkable feature, have not yet attracted that notice which their importance demands. Still they have not been altogether unnoticed by the crowds of holiday-folk, who have thronged to the Museum during the last few days, and who seem unanimously to regard them as "very ancient and very curious."

These marbles, which were discovered by Mr. Fellows, while travelling in Asia Minor, in 1838, and said to be the most remarkable and important accession received by any European museum for many years, and have been obtained and brought to England in consequence of the greatest enterprise and self-denial, on the part of the gentleman by whom they were discovered, and in consequence of whose representations respecting them, they have been lodged in the British Museum. The marbles already secured to the British nation, are but a small portion of those that abound in the interesting country from which they have been brought; they are, however, very valuable, and some idea of their quantity may be obtained, when we mention that they were brought to England in seventy-eight large and heavy packages. The Xanthian or Fellows' marbles, as it has been proposed to have them called, illustrates the mythology, the modes of warfare, and a variety of interesting features in the manners and customs of the ancient inhabitants of Asia Minor, who were originally settlers from Crete.

As might be expected, these sculptures do not, as works of art, rank with the Elgin marbles, but they are highly interesting, as illustrating the state of sculpture in a much earlier age. They are supposed to include some of the earliest efforts of Greek art, which have come down to our times. The following objects in the collection are those which Mr. Fellows describes, as the bas-reliefs, representing the legend of the daughters of king Pandarus, being carried away by the harpies, which were around the high square monument, which was called the harpy tomb. The marbles belonging to this tomb are placed in the centre of the grand central saloon, arranged as they were before being taken down. Near them is placed a model of the tomb, which was supported by a shaft seventeen feet high, and weighing eighty tons, standing on a plinth six feet high. The tomb itself was three feet three inches in height, surmounted by a cover which weighed from fifteen to twenty tons. The central saloon also contains some very beautiful frieze work, representing in bas relief a bear hunt: all the figures, the horses and horsemen, the dogs, and the unfortunate bear itself, are very spirited and bold, but not highly finished specimens of art. Some of the figures on the harpy tomb, and those placed on the under-edge of the same large frame-work, bear a considerable resemblance to the figures on the monuments of Egypt: we may mention particularly the gods seated on chairs, one smelling a lily, and another giving a helmet to a warrior. In the ante-room, there are several very rich friezes,—one represents a sacrifice; the fire is burning on the altar, and a number of persons are approaching with various offerings, both animal and vegetable, and in most cases the offering may be readily distinguished. The siege of the walled town forms in itself an interesting subject; the walls are defended by warriors, armed with stones, which are also the weapons in general use among all the combatants; on the walls are a number of females, whose countenances indicate great distress, as they well may, for the artist has introduced an escalade, which is sufficiently indicative of the danger of the inhabitants. The friezes and the pediments in this room, contain some figures, which for vigour of design, if not for beauty of execution, may vie with the Elgin marbles. Mr. Fellows, in his account of the transmission of these marbles to England, remarks, that the frieze so accurately illustrates the description mentioned by Herodotus, of the capture of the early city, that he could almost fancy, that the neighbouring historian had written his history from its commemorating an event which had happened about a century before his era. We understand that a room is to be prepared, expressly to receive this valuable addition to the antique sculptures with which our great national collection is enriched.—*Times.*

AFRICAN CIVILIZATION.—The history of mankind confirms the conclusion reached by individual reasoning, that commerce has everywhere been the forerunner and precursor of civilization—the remote if not the immediate cause of the substitution of the civilised for the savage or barbarous condition of man. There is no more a royal road to civilization than there is to mathematics, and we might just as successfully attempt to convert sand by a *hey presto* into glass as to endeavour to improve Africa by means other than those which have developed humanity in colder climates, and under whiter skins. The North American Indians are gradually disappearing from the face of the continent where Europe found them numerous, happy and contented; why? Very much doubtless because of the brutal conduct and savage policy of their neighbours; but still more in accordance with that great law of nature which has ordained the displacement of those who will not through their daily labour earn their daily bread—"in the sweat of thy face shalt thou eat thy bread"—by those who act in obedience to that fundamental agency of human progression. It is because that agency is so remarkably and distinctly observable throughout Africa, that our hopes of the ultimate civilization of that great continent are so strong, and our conviction so deep.

But the civilization of Africa must be worked out by Africa itself; all that Europe can do is to incite that love of gain, and desire of accumulation, which are its primary incidents. The productions of Africa are more numerous and valuable than those of either America when first discovered, or of Asia when similarly situated; its commerce is extensive; and its population teeming. We have neglected Africa for America; we have torn from their homes Africans to cultitive the islands and fields of the new continent. Let us repair the wrongs we have inflicted—let us expiate the guilt we have perpetrated How shall we accomplish so great an end? By "forming a mutually remunerative intercourse," answers the shrewd and sagacious Mr. Jamieson. By bringing demand to bear on surplus production, the African would be induced to industry, and on continuous industry depends his future improvement. Such an intercourse is more dependant on ourselves than on the Africans; and if more were done and less written and spoken about Africa there would be greater hopes of its civilization. Much might be accomplished by government; the duties on the admission of African produce into this country ought to be lowered; at present the importation of more than one of the indigenous products of its soil is obstructed by prohibitory imposts; thus, for instance, the finest coffee in the world grows in the district of the Rio Nunez; a few years ago great exertions were made to collect it and establish a trade therewith; a large cargo was brought to England, but for the last five years it has lain rotting in the docks, the duties on its release being prohibitory. How can we anticipate the development of the great resources of Africa when we refuse to stimulate African industry, and prolong African debasement by our customs' laws? Still less can we expect to encourage our merchants to proceed with their adventures, if we send out expeditions to interrupt their progress and disturb the course of trade, or slander those who have done more, and are doing more, to destroy the slave trade than all our treaties or squadrons have accomplished. There is no trade that requires to be let alone more than the African.—*Morning Herald.*

FEATHER BEDS.—The general custom at Berne is to take either house or apartment unfurnished, and hire the furniture. We were in this case most fortunate; my first application was successful. The proprietor of the champagne answered it in person. She accepted my offer of fifty francs for the fortnight; so we are here most comfortably settled in double quick time. When we came to it at twelve o'clock there were only the drawing-room and one bed-chamber furnished. There was not a stick in my room at three o'clock; at five it was completely furnished, and I felt quite at home, writing my journal in it. The beds were put up like magic. Certainly they beat us hollow in the matter of beds. When I think of a four-post bed in England, with its hundred yards of material, flounced, frilled, plaited, quilted, tortured into every form and variety, with its dust-catching top, taking a whole day to put up, and half a day to pull down, and see the pretty, light, clean-looking canopy I shall this night repose under, with its oft-carded, soft, clean, wholesome wool mattresses, I cannot but wish that we would condescend to copy so useful an example. When the Emperor of Russia came to England he could not sleep upon the magnificent thing prepared for him, and begged to have a mattress on a truckle bed. Our luxurious feather beds are, if not death to the lazy, certainly sickness to many, with their closely drawn curtains, in a carpeted room, breathing dust all night from the feathery down. It chokes one almost to think of it; and yet when we return to England we shall find nothing else. And this feather bed, too, has been lain in by all manner of persons for generations, without the "taste" of a drop of water or of a breath of air.—*Lady Vavasour's Last Tour and First Work.*

Origin of the Family of Lord John Russell.—"The Russell family (say Britton and Bayley) may date the era of their greatness to a violent storm which happened about the year 1500, on the coast of Dorset, a county which appears to have been the birthplace of their ancestors, one of whom was constable. In the year 1521 Philip, Archduke of Austria, son of the Emperor Maximilian, being on a voyage to Spain, was obliged by the fury of a sudden tempest to take refuge in the harbour of Weymouth. He was received on shore, and accommodated by Sir Thomas Trenchard, who invited his relation, Mr. John Russell, to wait upon the Archduke Philip, who was so much pleased with the polite manners and cultivated talents of Mr. Russell, who was conversant both with the French and German languages, that, on arriving at court, he recommended him to the notice of Henry VII., who immediately sent for him to his palace, where he remained in great favour till the King's death. In the estimation of Henry VIII. he rose still higher. By that monarch he was made Lord Warden of the Stannaries, Lord Admiral of England and Ireland, Knight of the Garter, and Lord Privy Seal, and on the 9th of March, 1538, created Baron Russell, of Cheneys, in the county of Bucks, which estate he afterwards acquired by marriage. At the coronation of Edward VI. he officiated as Lord High Steward, and two years afterwards, in the year 1549, was created Earl of Bedford. He died in 1554, and was buried at Cheneys, where many of his descendants have also been interred," &c. &c. Henry VII. (says Pennant), often resided at Baynard Castle, and from hence made several of his solemn processions. Here, in 1505, he lodged Philip of Austria, the matrimonial King of Castile, tempest-driven into his dominions, and showed him the pomp and glory of his capital.

American Embassy to China.—We see by the Washington papers, received by the last mail steamer from Boston, that Congress had passed an act appropriating 40,000 dollars to defray the expense of an embassy to Pekin, for the purpose of making a commercial treaty, and Mr. Nathan Dunn, the wealthy merchant and very talented proprietor of the interesting Chinese collection, is proposed as the most suitable person to receive the important appointment, from his long residence of eleven years in Canton, his thorough knowledge of the Chinese character, and of the trade of that immense empire, as well as for his high integrity and moral worth. We understand that Mr. Dunn scrupulously refrained participating in the demoralizing opium trade, and when application was made to the Viceroy of Canton for permission to ship his splendid museum, his Highness promptly granted his request, saying that Mr. Dunn had never violated the laws, or been engaged in smuggling opium.—*London Paper.*

Carp.—In Polish Prussia, and many other parts of Germany, the sale of carp constitutes a part of the revenue of the nobility and gentry; so that the proper management of that fish is reduced to a kind of system, founded on the experience of several generations. In the pond at Charlottenburgh, a place belonging to the King of Prussia, the writer of this saw more than two or three hundred carp, between two and three feet long, and he was told by the keeper they were of between fifty and sixty years standing. They were tame, and came to the shore in order to be fed; they swallowed with ease a piece of white bread of the size of a halfpenny roll. We shall only add (to ascertain a curious fact in natural history), that the author has seen the experiment successfully tried, and attended to the whole process in a nobleman's house where he then resided, in the principality of Anhalt-Dessau. The fish, being taken out of the water, is wrapped up in a large quantity of wet moss, spread on a piece of net, which is then gathered into a purse, in such a manner, however, as to allow him room to breathe. The net is then plunged into water, and hung up to the ceiling of a cellar. At first the dipping must be repeated every three or four hours; but afterwards the carp need only be plunged into the water once in about six or seven hours. Bread soaked in milk is first given to him in small quantities. In a short time the fish will bear more, and grow fat under this seemingly unnatural treatment.—*See Monthly Review vol.* 48, *p.* 117.

Bird-nesting.—It is against the laws of the Duchy of Nassau to take birds' nests: even those of birds of prey cannot be taken without permission from the keeper of the forests. For taking a nest of common singing birds the fine is five florins; if nightingales, fifteen florins: if the nest be taken out of a garden or a pleasure ground, the fine is doubled.

NOTICE TO SUBSCRIBERS.

Since our last publication the Stamp Office authorities having agreed to our proposition of allowing us to print unstamped copies of the Journal for distribution in the city, we intend in future to avail ourselves of this privilege, except when any of our subscribers express a wish to the contrary. It is scarcely necessary to inform the subscribers that unstamped copies *cannot* be sent *free* through the Post Office.

We have been obliged to defer the notice of several new books until next number.

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Reviews.

Canada, Nova Scotia, and New Brunswick, and the other British Provinces in North America; with a Plan of National Colonization. By James S. Buckingham. London: Fisher, Son, and Co.

This most valuable work is dedicated, by permission, to Sir Charles Metcalf, Governor General of Canada, and is illustrated by numerous beautiful plates of the principal towns in our transatlantic possessions. From our previous knowledge of the popular style of writing with which the author describes what he wishes to explain, we were prepared for a volume which could not fail to enlighten us as to the actual state of our colonies, and we are ready to acknowledge that our expectations have been exceeded. It is enough to say, that we never understood Canada and its people, and the causes of recent events, so well as since we read this book. The writer had an advantage also which few travellers possess. His character as a writer and a gentleman had gone before him, and opened a way for obtaining information which could not generally be experienced by any others. His extensive knowledge of history also gave him opportunities of making its lights and experience serve to explain many of the circumstances which he describes.

His description of natural scenery is so well known that we will notice but one remarkable instance in an account of sunset on the Saint Lawrence River :—

"The sunset upon the river was one of the richest and most beautiful that we had for a long time witnessed, and would be thought an exaggeration if faithfully depicted on the canvass. I remember nothing in the Mediterranean or the Indian Ocean equal to it, and only one sunset superior, which was that seen amid the forests of Tennessee, in the autumn of the last year, and described on that occasion. In this sunset on the Saint Lawrence the heavens in the east were of a singularly dappled grey, rising above a base of thickly piled up clouds, which seemed to indicate the gathering of a storm; while in the west, the whole of the heavens were suffused with a glowing red, in every gradation of shade, from the deepest crimson to the lightest roseate hue. Gradually, the clouds resolved themselves into beds of horizontal strata, in which the variety of colours surpassed anything that I remember, but so beautifully blended, and so harmoniously placed in juxta-position and succession, that each tint seemed to set off or enrich the beauty of its adjoining ones. Among these, purple, crimson, amber, yellow, turquoise blue, and aquamarine green, seemed most predominant; and no mosaic of varied marbles that was ever made by the most skilful artist could present a richer, more varied, or more glaring surface, than did the eastern dome of the heavens in this enchanting sunset, which I longed to have the power of transfixing on some permanent memorial before its rapidly changing aspects caused its splendours to fade away."

One of the most extraordinary electric (*as we suppose*) phenomena of which we have any record, occurred in Montreal in 1819, and infused terror into all classes, and is thus described in the work before us :—

"It was on the morning of Sunday, the 8th of November, that the sun rose of a pink colour, seen through a hazy atmosphere, and with a greenish tinge on all the clouds that were visible; this was succeeded by a dense mass of black clouds, from whence descended heavy rains, depositing on the earth large quantities of a substance that had the appearance and smell of common soot. On Tuesday, the 9th, the same phenomenon was repeated, but with more intensity. The rising sun was of a deep orange colour; the clouds in the heavens were some green and others of a pitchy blackness; the sun then alternated between a blood-red and a deep brown colour; and at noon it was so dark, that candles were obliged to be lighted in all the houses. All the brute animals appeared to be struck with terror, and uttered their fears in mournful cries, as they hurried to such places of shelter as were within their reach. At three o'clock it was as dark as night, and out of the pitchy clouds proceeded lightnings more vivid, and thunders more loud, than had ever before been heard, causing the floors of the houses to tremble to such a degree, as to throw those who were seated or standing off their feet. After this, torrents of rain fell, bringing masses of the same sooty substance noticed before, and a short period of light followed, and after this, at four o'clock, it was as dark as ever. The ball at the top of the steeple of the Roman Catholic Church was next seen enveloped in flames; the fire alarm was given by all the bells of the city, and the cry of *fire* was repeated in every street. The populace rushed to the open square near the church, called the 'Place D'Armes;' and every one seemed impressed with a belief that some great convulsion of nature was about to take place, or that the last day was at hand. The iron cross, which was sustained by the ball on fire, soon fell on the pavement with a loud crash, broken into many pieces; the rain again descended in torrents, blacker even than before; and as the water flowed like ink through the streets and gutters, it carried along on its surface a foam like that produced by the violent action of the sea. The night was darker than ever, and the fate of the buried cities of Herculaneum and Pompeii seemed to be awaiting the town of Montreal! Fortunately, however, the following day was light and serene, though it required some time to tranquillize the fears which these singular, and hitherto unexplained appearances, had very naturally engendered."

The history of the rise and progress of most of the principal towns is also given with the notices of their present condition, and many interesting anecdotes render the work still more attractive.

After describing the preparatory operations which ended with putting Quebec into our possession, and the passing of the troops down the river in silence, we have this interesting account :—

"The following touching anecdote is recorded of Wolfe, which shows how strongly his love of literature, and ambition of intellectual glory, beamed through all his military feelings, even at a moment when it might have been expected that everything would have been absorbed in the thoughts of the coming conflict on which he was about to enter. Among the midshipmen who attended General Wolfe in his duty of visiting the various posts on the night before the battle, was young Mr. Robinson, subsequently the distinguished professor of that name of Edinburgh, who states, that as they rowed along in the boats, the night being peculiarly fine, and the stars beaming with unusual brilliance, General Wolfe repeated to his companions in arms, with great feelings of pathos, the beautiful poem of Gray's Elegy in a Country Churchyard, which had only just then been published, and after uttering the exquisite line—

'The paths of glory lead but to the grave,'

he remarked to the officer who sat next to him in the stern of the boat, that he would prefer the distinction of being the author of that poem, even to the honour of beating the French on the morrow!"

In the subsequent battle, the opposing commanders were slain—Wolfe rejoicing that he had lived to see the enemy flying, and Montcalm pressing his earnest inquiries whether his wound was mortal, in the hope that the few remaining hours might be too short to permit him to see the surrender of Quebec!!! Who shall have the glory of terminating the frightful butcheries of war, almost always useless, and rob the hyena and the grave of such noble prey as these? A joint monument, sixty-five feet high, was erected in 1828, in the government garden, by Lord Dalhousie, governor, to the memory of these brave men.

Our author informs us that the cold is so intense in winter, that the quicksilver sometimes descends to 35° and 40° below zero, which is the freezing point of quicksilver.

"Instances have been known, in which a soldier having dropped or mislaid his mittens, has had his hands frostbitten by holding his musket; and officers, we were assured, take with them little pocket mirrors, by which they are enabled to see, from time to time, whether any part of their faces have changed colour, it being thus easy to see a frostbitten part without being able to feel it. The speedy application of friction and snow will restore the dormant action, and prevent the putrefaction which would otherwise ensue."

The whole volume is interspersed with interesting anecdotes, from which we select the following as a specimen. We fully concur in the concluding observations. The story is founded on an inscription in French verse, surrounding a gilded dog, over an edifice, as follows :—

> "Je suis un chien, qui ronge l'os :
> En le rongeant je prends mon repos.
> Un temps viendra, qui n'est pas venu.
> Que je mordray qui m'aura mordu."

"The history of this inscription is characteristic of the times in which it occurred. M. Philibert, a rich merchant of France, resided here in 1712, when M. Bagon was the intendant. The former having received some injuries from the latter, which his power and influence made it dangerous for him to resent, placed this gilded dog and inscription over his door. The allusion in the last two lines, being supposed to point to M. Begon, one of the French officers of the garrison took it upon him to avenge the insult, by stabbing M. Philibert through the body with his sword, in the open street, of which wound he died. The assassin made his escape, and left the province, no doubt abundantly provided for by the intendant; but he did not escape retribution, for the brother of the murdered merchant, coming out from France to settle his affairs, and learning that his murderer had gone to the East Indies, he undertook a voyage there in search of him, and meeting him in the street of Pondicherry, he challenged him on the spot, where they fought with swords, till the assassin of the merchant was killed by the hand of his brother. This act was universally applauded by the chivalric, but antichristian spirit of the age, in which, forgiveness of injuries, instead of being regarded as a virtue, was stigmatized as a crime; and unhappily for mankind, we are not much wiser or better, in that respect, at present, in the age in which we live, than the generations that lived before Christianity was preached or known."

One of the most important chapters in the whole work is on the subject of colonization. The British possessions in North America contain four millions of square miles, or about forty-eight times as many as Great Britain, which contains only eighty-four thousand. The author throws much light on this subject, both as concerns the nation and individuals, and explains in his usual clear and perspicuous style, the advantages to both. The intense heat of the summer is often dangerous to the vegetation, and the same spontaneous combustion occurs as that which sometimes takes place in the wooded countries in the north of Europe. The following account of such a conflagration must conclude our notice of the work :—

"One of the calamities to which the first settlers in this province have been subject, is the frequent occurrence of fires in the extensive forests of the interior, though this has not happened so often of late as formerly. One of these instances, however, is too remarkable to be omitted. It occurred on the River Miramichi, in 1825. The season of the year (summer) was more than usually hot and dry, the thermometer frequently to 100°, though in the winter it goes down to 30° below zero. In October, the trees of the forest were all so hot and dry as to be like touchwood or tinder; and on the sixth of that month, the forests high up on the river were discovered to be on fire, whether by spontaneous ignition or by some fires lit in the woods, has never been ascertained. This fire only increased the heat and dryness of all the trees within its influence, so that the conflagration spread with great rapidity. The atmosphere was reddened over many miles of space, and this was overhung by black clouds of smoke, in dense masses, giving a peculiar and almost terrific gloom to the picture. Ever and anon there were sudden flashes like lightning, accompanied by crackling of woods, and multiplied sounds of escaping gas, like the repeated discharges of cannon; while showers of ashes from the burning forest were scattered far and wide by the winds. The great heat, of course, drew the currents of the surrounding atmosphere more powerfully towards its edges and centre, which only served to increase the combustion, so that the flames swept their way downward in the course of the river, the heat being so great as to cause the water between the two approaching masses of fire on either bank, to boil and hiss, and send up steam or vapour, and this hissing and bubbling noise, added to that of the roar of the flames, and the crackling and explosions of the woods, was enough to inspire terror in the boldest hearts.

"The fire, in its progress, soon enwrapped the two towns of Douglass and Newcastle, covering an area of six thousand square miles, with flame, and as in these towns there were large deposits of rum, turpentine, tar, oil, and even gunpowder, these all added fresh fuel to the flame, and made it blaze with indescribable fury. The conflagration thus spread onward with still greater rapidity than before, sweeping away all the villages and single dwellings in its course, and extending, in the whole for more than one hundred miles along both banks of the river.

"At least five hundred human beings perished in the flames, while a much greater number of wild and domestic animals were at the same time destroyed. The putrescent and unburied bodies of both infected the atmosphere, while the effect of this was still heightened by the dead bodies of the numerous fishes which were thrown up on the river's banks. There were, at this awful moment, not less than one hundred and fifty vessels in the Miramichi River, the crews of which were terror-struck at the approach of a conflagration which advanced with inconceivable rapidity, swept everything before it, and threatened to enwrap them in its destructive flames. Of the ships, some few escaped, others were burnt down to the water's edge, and then sunk. Of the men, many were burnt to death, and others, who escaped by getting out to sea, were so mangled and blackened, as to carry the marks for life; while of those who succeeded in getting beyond the actual reach of the fire, hundreds perished for want of food, raiment, and shelter. Not less than a million's worth of property, in timber, dwellings, ships, and goods, were destroyed, and the calamity was, upon the whole, greater than any that had ever visited any British settlement before."

A Journal of the Disasters in Affghanistan in 1841—2. By Lady Sale. London: John Murray. 1843.

(Continued.)

Amongst the scenes of perpetual treachery, assassination, and bloodshed, caused by the attacks of their faithless allies, it is most agreeable to find that our countrymen could sometimes turn their attention to more pleasing subjects, and that Lady Sale was able to pursue her agricultural amusements. She thus describes her garden :—

"Added to which, Sale had a shoke (mania) for gardening, and had an excellent kitchen garden; whilst I cultivated flowers that were the admiration of the Affghan gentlemen who came to see us My sweet peas and geraniums were much admired, but they were all eager to obtain the seed of the edible pea, which flourished well, and by being sown as soon as the frost was over, we had plenty of succession crops, and we still have peas growing, which we hope, if not cut by frost, will give a crop next month. The potatoes thrive well, and will be a very valuable addition to the cuisine. The cauliflowers, artichokes, and turnip radishes, are very fine, and peculiarly mild in their flavour; they are all from seed we brought with us from our garden at Kurnaul. The Cabul lettuces are hairy, and inferior to those cultivated by us; but the Cabul cabbages are superior, being milder, and the red cabbage from English seed grows well. Regarding the fruits of Affghanistan, I should not be believed were I to state the truth. Selected grapes, off a bunch of those in the Kohistan, have been known to weigh two hundred grains; the largest I ever weighed myself was one hundred and twenty-seven grains. It was the kind denominated the bull's eye by the English; I believe the natives call it hoosseinee-angoor; its form is nearly round, and the taste very luscious; it is of a kind not generally purchasable. At Kardunah they grow in great perfection. Those I eat were sent as a present from a native gentleman to Captain Sturt, as were also some very delicious pears from Turkistan. The largest peaches I have myself weighed turned the scale at fifteen rupees, and were fully equal in juiciness and flavour to those of the English hot-house. The finest sort are in the Kohistan, but are so delicate they will not bear carriage to Cabul. I have been assured by my friends who have been there in the peach season, that the best fruit of the kind at my table was quite inferior to those above mentioned. The Orleans blue plum is excellent. There is a green one resembling in appearance a green gage, but very tasteless. There are also many other kinds, with a great variety of melons, water, musk, and surda, which is accounted the best."

The hatred of the Affghans for Feringhees (Europeans) seemed to be universal, and especially as they considered them to be the natural enemies of Mohammedans. It thus became a war of the worst character, a religious warfare. Nor can we wonder at the operation of such an opinion, when we reflect that from time to time those calling themselves Christians have pursued a precisely similar course. Many reasonable excuses can be found for the worshippers of a false prophet, but none for the followers of the Prince of Peace. The secrets of the last day alone can discover their relative position.

Perhaps none of the victims of this expedition is more lamented than Captain Sturt, an engineer officer, who was married to Lady Sale's daughter. His fate excites not the less interest as being so nearly allied to this remarkable lady. Throughout the most trying scenes he appears to have had his faculties alive to the dangers, when many others seem to have been deceived by appearances or paralyzed by fear. The attack which proved nearly fatal to him, took place at the time that Sir Alexander Burnes was murdered.

Truly, neither this people nor their country need be objects of ambition to Englishmen. The event is thus described :—

"The Shah resides in the Bala Hissar, and his guns from that fortress were constantly firing; the Affghans in the city were doing the same from six in the morning. Captain Sturt hearing that Captain Johnson's (paymaster to the Shah's force) house and treasury in the city were attacked, as also Sir Alexander Burnes's, went to General Elphinstone, who sent him with an important message, first to Brigadier Shelton at Siah Sung, and afterwards to the King, to concert with him measures for the defence of that fortress. Just as he entered the precincts of the palace he was stabbed in three places by a young man well dressed, who escaped into a building close by, where he was protected by the gates being shut. Fortunately for my son-in-law, Captain Lawrence had been sent to the king by the envoy, and he kindly procured a palkee and sent Sturt home with a strong guard of fifty lancers, but they were obliged to make a long detour by Siah Sung. In the meantime Lawrence came to tell me all that had past, and to break the bad news to my daughter, Mrs. Sturt.

"Lawrence (military secretary to the Envoy) had had a very narrow escape himself. An Affghan, grinding his teeth and grinning with rage and hatred to the Feringhees, aimed a blow at him with a sword, which Lawrence parried, and putting spurs to his horse he escaped: one of his suwars received a cut in the leg, which was revenged by another horseman shooting the fellow.

"It was Lawrence who came to tell me of Sale's wound: he is always kind and friendly, though he has now been twice the herald of ill news. It struck me as probable that the suwars would take Sturt to his own house, and as he and my daughter were staying with me, there would not even be a bed to place him on there. I therefore determined not to lose time by waiting till the bearers could get my palkee ready, but took my chuttah and walked off as fast as I could towards Sturt's house. I fortunately met Major Thain (aide-de-camp to General Elphinstone), for I soon saw a crowd of about fifty suwars in his compound. Thain ran on, and told the bearers to bring him on to my house. I cannot describe how shocked I felt when I saw poor Sturt, for Lawrence, fearing to alarm us, had said he was only slightly wounded. He had been stabbed deeply in the shoulder and side, and on the face (the latter wound striking on the bone, just missed the temple) he was covered with blood issuing from his mouth, and was unable to articulate. From the wound in the face and shoulder, the nerves were affected; the mouth would not open, the tongue was swoln and paralysed, and he was ghastly and faint from loss of blood. He could not lie down from the blood choking him, and had to sit up in the palkee, as best he might, without a pillow to lean against. With some difficulty, and great pain, he was supported up stairs and laid on his bed, when Dr. Harcourt dressed his wounds, which having been inflicted about ten o'clock, now at one, were cold and stiff with clotted blood. The tongue was paralyzed, and the nerves of the throat affected, so that he could neither swallow nor articulate; and the choking sensation of the blood in his throat was most painful to witness. He was better towards evening; and by his wife's unremitting attention in assisting him to get rid of the clotted blood from his mouth by incessant applications of warm wet cloths, he was by eleven at night able to utter a tolerably articulate sound. With what joy did we hear him faintly utter *bet–ter*; and he really seemed to enjoy a tea-spoonful of water which we got into his mouth by a drop or two at a time, painful as it was to him to swallow it.

"It was most gratifying to see the attention and kind feeling manifested on the occasion by the serjeants of the engineer department, and their anxiety (particularly Serjeant Deane's) to make themselves useful to Sturt.

"Captain Warburton, Captain Johnson, and Captain Troup, were all fortunately in cantonments; for their houses in the city were plundered and burnt. At Johnson's (the king's treasury) the guard of forty men was massacred, as also all his servants but one, who luckily was not at home. The insurgents looted a lakh and 70,000 rupees of public property, and Johnson lost above 10,000 rupees of his own property.

At the same time the house of Sir Alexander Burnes was attacked, and he and his brother were slain. Captain Broadfoot also, who was at breakfast with them, shared the same fate, after having slain six of his assassins. Whilst these events were going forward, with the clash of arms ringing in their ears, the envoy and his friends seemed disinclined to believe in the existence of conspiracy. Lady Sale thus describes their conduct :—

"The state of supineness and fancied security of those in power, is the result of deference to the opinions of Lord Aukland, whose sovereign will and pleasure it is, that tranquillity do reign in Affghanistan; in fact, it is reported at government house, Calcutta, that the lawless Affghans are as peaceable as London citizens; and this being decided by the powers that be, why should we be on the alert? Most dutifully do we appear to shut our eyes on our probable fate!

"The king, envoy, and general appear perfectly paralyzed by this sudden outbreak: the former is deserted by all his courtiers, and even by his most confidential servants, except the wureer (vizier), who is strongly suspected of having instigated the conspiracy; and suspicion attaches to his majesty again."

The most unaccountable indifference as to the preservation of the provisions for the army existed at a moment when their loss could not possibly be supplied from any other quarter. Their capture rendered their subsequent disastrous retreat inevitable, unless they chose the alternative of a surrender :—

"5th. At five o'clock, A.M. no reinforcement having gone to the assistance of Lieutenant Warren, although promised by two, that officer vacated the commissariat fort. No blame can attach to him, but much to those who withheld aid. The enemy took possession, depriving us of our only means of subsistence. Nor was this all the mischief: it gave both confidence and much plunder to the enemy, and created great disgust amongst the Europeans who lost all their rum; a worse loss was all the medical stores, sago, arrow-root, wine, &c. for the sick.

"On this day a report was carried to the king and Conolly that the rebels had mined from the Shar Bazaar to immediately under his majesty's palace, which said mine was to be sprung the same evening. The king instantly left the palace, and took up his abode at the gate of the Harem Sarai, where he remained during the rest of the siege, and all day, seated at a window commanding a fine view of cantonments, telescope in hand, watched anxiously the course of passing events in that place. He was at this time quite sunk into a state of despondency, and would gladly seize any opportunity of asking the opinion of any of the officers as to what was likely to be the issue of the struggle. He put off for the time all the insignia of royalty, made the officers sit by him *on chairs*, and seemed quite gobrowed (an expressive eastern term, to be rendered something between dumbfounded and at one's wits end.) The Shah's conduct in the particulars of the chairs is more worthy of remark, as he had been in the habit of keeping the officers for hours standing with folded hands silently in his presence, and then ungraciously dismissing them, without even a passing remark."

The journal points out the advantages which the Affghans possessed over the English, and which were particularly available when the mountaineers were posted on eminences. Her indefatigable son-in-law, notwithstanding his many dreadful wounds, was ever on the alert, and endeavouring to preserve the army. She herself appears to have had much less personal fear than some of those in authority :—

"6th. Sturt, having fretted himself half mad at everything going wrong, determined, weak and ill as he was, to go out and do his duty. He is the only engineer officer at Cabul! He was unable to dress, *but went out in his shirt* and pyjania to the works. Although he was out himself a little after six o'clock, he could not get things or people into their places until ten. General Elphinstone gave him permission to make any arrangements he considered as safe from chance of failure for taking the small fort; but when he had with great exertion got three nine pounders and two twenty-four pound howitzers at work (the latter across the road), Major Thain was sent to him to desire that he would be careful not to expend ammunition, as powder was scarce! there being at the time a sufficiency for a twelvemonth's siege! However, Sturt made no alteration in his proceedings, and by twelve o'clock an excellent breach was made, the bastion being thrown down and a great part of the curtain, so that ladders were not required: the gate was blown in at the same time by Captain Bellew, assistant adjutant general. There was a small crack in the rampart, near Sale's bastion, of which I used to take advantage, as a stepping-stone to enable me to see what was going on; and from my position, I saw the storming party ascend the breach, under a heavy fire, with a commendable steadiness and alacrity: they quickly drove the enemy from their station, who then escaped through the wicket into the Shah's garden. The storming party was commanded by Major Griffith, of the 37th N. I. consisting of the light company of the Queen's 44th, Lieutenant Hobhouse and ten men of H.M. 13th light infantry, one company of 5th N.I., one company 37th N.I.; in all about one hundred and fifty men Lieutenant Raban, 44th, killed whilst waving his sword on the highest point of the breach, Mr. Deas, 5th, wounded. I believe we had nineteen killed, and several wounded; amongst the latter, one of the 13th. The flag taken from the enemy was waved on the crest of the breach by a Sipahee of the 37th, who captured it, and who was promoted for the act. He and a Havildar of the same corps, though belonging to the rere company, were with Lieutenant Raban, the first into the fort. But few of the enemy were found killed; but it is difficult to estimate the numbers of their slain, as they are so particular regarding Moslem burial that they always, when practicable, drag the bodies away. Great numbers escaped to the hills behind, which were quickly covered with horsemen, from two thousand to three thousand men. A party of Anderson's horse charged straight up the hill (just to the left of the gorge leading to the lake) in most gallant style, and drove the enemy along the ridge to the extreme left. Meantime the 5th cavalry rode along the foot of the hill to the left, and charged up at that end; by which manœuvre, the enemy were hemmed in, in the centre of the two cavalry corps, when a very severe encounter took place. From the top of our house we saw everything distinctly, the gleaming of their swords in the sun, and the fire of their pistols and matchlocks: fresh horsemen came pouring on to the assistance of the enemy from the back of the hill; they buried our cavalry and Anderson's horse, who, overpowered by numbers and a most galling fire, were forced along the ridge to the spot whence the first charge took place. The Affghans have many advantages over our troops; one consists in dropping their men fresh for combat, each horseman takes a foot soldier up behind him, and drops him when he is arrived at the spot he is required to fire from. Their horsemen are either gentlemen or yeomen (as we should denominate them), all well mounted, and their baggage ponies can manage the hills much better than our cavalry horses; in fact, the Affghan horses seem to me to climb about with as much unconcern as goats do. As regards pistols, we are on a par, as most of theirs have been presents from the Pasha Kanas; but their juzails carry much further than our muskets, and whilst they are out of range of our fire, theirs tells murderously on us. A standard-bearer with a white flag was killed; he was evidently a person of some consequence, from the great anxiety to obtain possession of his body. There were two red flags in another division. Captain Anderson distinguished himself, killing four men with his own hand; he rode up the gorge to challenge the enemy again, but they had the advantage of position, and would not come down.

(To be continued.)

The History of China, Pictorial and Descriptive, from the earliest period to the present time. Parts 2 and 3. By Miss Corner. London: Dean and Co.

[Continued from our last].

It has seldom happened that an invading and successful nation has been satisfied with the possession of half of the country in which they were established. The Tartar sovereigns who had reigned in the north of China, had kept their eyes fixed for several years on the fertile regions of the south, until the reign of Kublai Khan, about the middle of the thirteenth century, who deemed himself strong enough to undertake the conquest. He is described as a terrible foe, but a most beneficent ruler. His general Peyen invaded the country in the minority of the last son of the Chinese monarch—a mere child of six years of age. Being pursued by the Chinese, the unhappy child was thrown into the sea by one of the grandees, and the empress mother and the chief ministers followed the example, by throwing themselves in after him, and they all perished.

"The new emperor fixed the seat of his government at Kambalu, called also Peking (the court of the north.) The commerce of the empire had now increased to such an extent that it was found necessary to adopt a more convenient kind of money than the small copper coinage that was in general use; therefore Kublai Khan invented a species of paper money, similar to our bank notes, made of the inner bark of the mulberry tree, and stamped with his own mark, to counterfeit which was a crime punishable with death. This great prince seems to have paid more attention to the interests of commerce than any of the emperors who had preceded him, and to him the Chinese are indebted for one of the grandest of their national works, which is the Grand Canal, that forms a direct communication by water, between Canton and Peking, the two extreme points of the empire. 170,000 men were employed for years in the construction of this mighty work, which was completed under the immediate successors of Kublai, and which, for real utility, far surpasses the great wall of Che-hoangti. It was in the early part of the reign of Kublai, before he had become master of the whole empire, that China was for the first time visited by European travellers, who were fortunate enough to be admitted to the court of the great Khan, and honoured by his confidence and friendship. Matteo and Nicolo Polo were two merchants of Venice, who having occasion to make a journey into Persia, which formed part of the dominions of Kublai, (being one of the countries conquered by his grand-father Tenighis), heard so much there respecting the splendour of the Imperial court, that they felt a great desire to become acquainted with the distant city of Kambalu, which they found means to visit by accompanying the Persian ambassador, who was charged with despatches for the emperor. They were received with the greatest courtesy by Kublai, who was well pleased with meeting with such an opportunity of gaining some correct information respecting the people of Europe, and made many inquiries on the subject of the manners, religion, and form of government of different European countries. In consequence of the conversations which he held with the Venetians, Kublai, who was himself a votary of the Buddhist faith, was nevertheless so highly impressed with their representation of the Christian religion, that he despatched by them a letter to the Pope containing a request that his holiness would send proper persons to instruct the Chinese in the doctrines of Christianity; and the Venetian travellers departed on this extraordinary mission."

Several years elapsed before the travellers returned, bringing with them Marco Polo, the son of one of them, who lived seventeen years at the court of the Emperor, and wrote on his return the history of the kingdom of Cathay or China. As the art of printing was then unknown in Europe, knowledge was slowly disseminated, and the book was generally discredited, though the contents were afterwards proved to be true. Two friars accompanied the Polos on their return, but were unable to travel farther than Syria, owing to the disturbed state of the country, and the year that the Polos arrived in China was that in which Edward I. returned to England from the Crusades. The emperor conferred a high office on young Marco Polo, who thus had a fine opportunity of becoming acquainted with the manners of the Chinese. At this time also, as the Cape of Good Hope was not discovered, the Indian trade was carried on from the Indian ocean through Alexandria, and the productions of China were received under the general name of Indian goods. When Columbus set out on his western voyage of circumnavigation he expected to arrived at China, as he was not aware of the existence of America, and hoped to share in the commercial advantages, and the wealth of the kingdom of Cathay, of which Marco Polo had so eloquently written. When he arrived at the Bahama islands he supposed them to be a great cluster on the coast of Asia, described by Marco Polo as consisting of 7458 islands, abounding in spices and odoriferous trees. Again, when the Indians of the islands told him of a large island called Cuba, he supposed it to be one of the great Chinese islands abounding with large commercial cities, and carrying on extensive trade, and he expected to be able shortly to deliver the letters of the king of Castile to the Emperor of Cathay. However, his fruitless search for the gold and spices of India and Cathay soon convinced him that he had arrived at an unknown country, which he called the West Indies.

An attempt by Kublai to conquer the Japan isles was unsuccessful, and the Chinese fleet was destroyed by a storm. The last sovereign of the Tartar or Mogul race was Shuntz, who ascended the throne in 1331. His family was thus displaced:

"There was a poor labourer in the province of Nanking, who had a son named Chos, a lad whose constitution was so delicate, that he was quite unfit for hard work, his father therefore placed him in one of the monasteries, to be brought up by the Bonzes, with a view to his becoming a member of that order. The boy, however, had no taste for so inactive a life, and growing stronger as his years increased, he enlisted as a common soldier in the Imperial army, in which capacity he distinguished himself so highly on two or three different occasions, that he was promoted step by step, till he had attained to a high rank, when he married a widow of fortune and influence, whose family was among those who were disaffected towards the Tartar government. Chos soon imbibed similar principles, and took the lead in a formidable insurrection that broke out in the province of Nanking, or as it was then called Keang-nan. The many changes of name that have occurred in the provinces and cities of China, have caused great confusion in the geographical history of the country, and made it very difficult in some cases to identify even places of importance. However, as soon as it was known that the famous general Chos was at the head of the insurgents, the whole province was speedily in arms, the capital having al-declared for the rebel chief, who met and defeated the Imperial forces. The numbers of the rebel army increased daily; the most considerable cities opened their gates to them, and at length Peking itself was taken, and Shuntz, with his family, fled into Tartary, leaving his capital in the undisputed possession of the victor, who was proclaimed Emperor by the title of Tait-sou, in the year 1366; and this was the commencement of the Ming dynasty, which was displaced about three hundred years afterwards by the present reigning family."

The new emperor, being a Chinese, restored many of the customs which the Tartar sovereigns had abolished, and amongst other things he ordered, that no woman should devote herself as a priestess of Buddha, and that no man should enter a monastery until he should be forty years of age. The emperor lost his favourite son, which occasioned him to leave the crown to his grandson, to the exclusion of his other sons, one of whom raised an army, and took the capital, when the youthful emperor perished in the flames, at the age of thirteen years. The Portuguese were the first Europeans who visited China in ships, after they had doubled the Cape of Good Hope, and the emperor, finding their objects to be commerce, though at first afraid of their vessels, so different from the Chinese form, soon established a friendly treaty, and allowed them to trade to Canton.

"The Portuguese were the first who called the great men of the Chinese empire mandarins. The first place where they established a settlement was at Ningho; from which port they long carried on a profitable trade with other parts of China and the Japan islands; but unfortunately, many of the Portuguese who went thither were daring adventurers, who were ready to undertake any desperate exploit for the sake of gain, and conducted themselves so improperly, that they were at length expelled from Ningho by the provincial government. They had, however, been allowed to build some warehouses at Macao, a port in a small island at the entrance of the Canton river, for which privilege they paid an annual tribute, and Macao, in the course of time, became their chief settlement. They erected there, by degrees, a number of good houses, and the merchants who went to reside there, took with them their wives and families, which was contrary to the laws of the empire, but connived at by the mandarins, who probably derived some advantage by granting this indulgence. Macao was honoured by being the place of banishment of the well known poet Camoens, whose beautiful poem of the Lusiad was here written in a grotto which still bears his name."

In 1644 the Tartars again invaded China, and overthrew the native dynasty after various sanguinary engagements, and re-established the Tartar of Mogul dynasty, which has continued to occupy the throne until the present day. If the English had not been successful in their late war with China, they would probably have sought out the native imperial family and re-established them upon the throne, which would have caused a powerful feeling in their favour.

Observations on the relative advantages of heating public and private buildings by open fires, stoves, hot water, or steam circulating through metallic pipes; or by large volumes of warm but not overheated air. By Anthony Meyler, M.D. Dublin: Graisberry and Gill.

The subject of these observations is considered of so much importance that the Royal Dublin Society, on different occasions, requested the learned Doctor to deliver courses of lectures to the public, who always, both during the delivery and at the conclusion, testified their very great satisfaction. The Society also, at a recent meeting, paid the unusual compliment of presenting the gold medal of the Society to the learned gentleman for his repeated services in this useful cause.

At the end are numerous testimonials of approbation from public establishments both here and in England, after they had given the system of ventilation a fair trial. Amongst them are the Liverpool Infirmary and Dispensary, Stoneyhurst College, Libraries of the Royal Dublin Society, Trinity College, &c. &c. The following extracts will best show the nature of the author's views.

"It is admitted on all hands, that the proper mode of heating and ventilating our public and private edifices is imperfectly understood, and that great injury to health, and a large amount of mortality, have been the consequent results. We inspire each day as much air as would nearly fill eighty hogsheads of sixty gallons each, and the entire of the blood in our system passes through our lungs nearly five hundred times in the twenty-four hours, to be exposed to the action of this enormous quantity of air that we daily respire.

"We vitiate the atmosphere by the moisture and effluvia which pass into it from our lungs and from the surface of our bodies. Between sixteen and twenty ounces of watery vapour escape daily from our lungs, holding in solution a considerable amount of carbonic acid, and about three parts in the thousand of offensive and unwholesome animal matter. If this fluid be kept for some time in a close vessel it will become putrid. Every person knows that the breath, occasionally in some, and always in others, betrays a fœtid taint. A considerable but variable quantity of fluid, both in the form of sensible and insensible perspiration, is passing from the skin into the atmosphere; air also escapes from our bodies, and passes into the atmosphere, containing unwholesome impregnations, and our sense of smell informs us of the offensive nature of an atmosphere so impregnated. Respiration destroys the vital portion of the atmosphere, and substitutes for it an air which is exceedingly poisonous: about 45,000 cubic inches of this poisonous air, designated carbonic acid gas, is discharged daily from our lungs. The membrane which lines the surface of our lungs is calculated to be not more than one thousandth part of an inch in thickness, and this membrane, when fully spread out and unfolded, would more than cover the external surface of our bodies. Some anatomists have calculated it as measuring more than twenty times the surface of the body of a large man. On this extensive surface the branches of the pulmonary arteries and veins are spread out as fine as hairs, to be exposed to the influence of the air which we respire. The air we inspire, as well as the moisture and effluvia which it contains, is absorbed by the blood and circulated through our system, and when infectious matter is contained in the air which we respire, it causes fevers and other contagious diseases. Even where acute disease is not the result of the respiration of an impure atmosphere, the health is impaired, we are rendered more liable to disease, and indigestion and a whole train of nervous maladies result, embittering and shortening the narrow span of human life. In consequence of the defective ventilation of our houses, we respire again and again the same contaminated atmosphere, vitiated not alone by our own respiration and effluvia, but by the respiration and effluvia of others, and we receive into our lungs the same impure atmosphere which has already passed through the lungs of all present. In each minute we destroy one gallon of vital air, and substitute for it about the same volume of carbonic acid gas. It has been calculated that each individual requires for wholesome respiration from fifteen to twenty gallons of fresh air per minute. The air of our houses is also deteriorated by the combustion of candles and other sources of impurity. Hence the vital importance of the adoption of such a system of ventilation as would expel the air from our residences with as much rapidity as it is vitiated, by the adequate introduction of the pure external atmosphere.

"The proper distribution of heat in our houses is not less conducive to comfort than it is to health; and there is yet great room for improvement in the attainment of this important object. Open fires are attended with dirt, with danger, and various other defects. They diffuse their heat, not equably but partially, and they are inadequate to the heating of churches, theatres, courts of law, and similar large buildings. They produce partial currents of cold air, which are injurious to health, causing rheumatism, inflammation of the lungs, and other diseases. Though they are useful in producing a circulation of air, the ventilation which they produce is inadequate and defective, inasmuch as they leave the contaminated air above the chimney-pieces to be again and again respired, whilst it is the pure external atmosphere, that comes in through the apertures of doors and windows, to animate the fire, chilling our shoulders and legs in its passage to the fire, that flows up the chimneys. In addition to these defects more than two-thirds of the heat generated by open fires pass up the smoke flue, imparting no warmth to the room.

Stoves heat more equally and more effectually than do open fires, but they do not effect the same degree of ventilation. They merely draw into the room as much air as serves for combustion, and they transmit into the general atmosphere, through their narrow flues, only the small volume of air which passes through the fire: whereas all the vacant space in the chimneys of open fires serves in an eminent degree for ventilation. The stove of Dr. Arnot is more defective in this respect than any other, from the smallness of the air aperture from which it is supplied; and those who inhabit apartments where it is employed as a source of heat, are compelled to respire again and again the same contaminated atmosphere. The generality of stoves also emit sulphureous and other injurious emanations.

"Metallic pipes, whether heated by steam or hot water flowing through them, and when properly distributed, are, of all agents, perhaps, the most effectual for diffusing an uniform temperature. Their great defect (and no defect can be greater, when considered with reference to health) is, that they effect no ventilation. These pipes, unlike stoves and open fires, draw no air into the apartment, and they expel none from it. They act merely as hot surfaces, radiating caloric; and those who live in apartments heated by so very unwholesome an agency, respire again and again the same impure air.

"When these pipes are allowed to cool, in consequence of their being better conductors of caloric than the walls and furniture (we will say of churches, for example), the effluvia emitted from our bodies are condensed on them; and when again heated they transmit these effluvia into the atmosphere. From want of ventilation to carry it off, the perspired matter is condensed on the walls and windows, running down in streams, and it is absorbed also by the cushions and drapery, and remains as a perpetual source of offensive contamination to the atmosphere, each successive congregation contributing to the mass of its impurities. Those who come from the open air into a crowded church, even when it is heated by stoves or open fires, are immediately sensible of its contaminated atmosphere; but after a few seconds habit blunts their perception of the poison which they are inspiring, and they are only sensible of it in the lassitude and languor by which they are oppressed. This great nuisance is considerably aggravated when open fires and stoves, as agents of heat, are superseded by hot water pipes. Rooms thus heated are uniformly oppressive and offensive: in fact they could not be otherwise. From this cause their employment in many places has been discontinued, and, I apprehend, the mania of heating inhabited places in this manner is rapidly passing away.

"When these hot water pipes are erected in a distinct place, and so arranged as to transmit a large volume of air into the apartment to be heated, they are then contributing both to comfort and to health, but the degree of heat and ventilation required in large buildings is rarely obtained in this manner.

"Warm air may be considered as the most efficient agent in diffusing an equal temperature, more especially in large buildings, and under proper regulations, and when not overheated, it is also the most wholesome. It is moreover free from all the defects attending the different modes of communicating heat, already enumerated; and, by being transmitted in large volumes, it combines the necessary degree of ventilation with warmth. The advantages attending warm air ventilation may be stated in a few words. It will adequately both heat and ventilate buildings, no matter how crowded or extensive. The temperature it produces is uniform; it is unattended with partial currents, and affords, at the same time, an adequate supply of pure air to expel the internal atmosphere, vitiated by combustion, respiration, and animal effluvia. It is also the most efficient agent in carrying off moisture; and thus, by keeping buildings dry, it contributes to their preservation, and at the same time renders them more wholesome. The close and oppressive smell pervading old houses proceeds mainly from the accumulated perspiration and effluvia which they have imbibed from our exhalations, and which they again emit into the air.

"The introduction of warm air into the halls and staircases of private houses would, in an eminent degree, be tributary to comfort and to health. Where it may not be considered expedient to introduce warm air directly into all the apartments, this fluid would find its way into them by the doors, and the entrance of cold either by doors or windows, would be thereby prevented, and no chilling currents of air would then take place. In the absence of the family, it would preserve the house dry, and well aired, superseding altogether the use of fires, and keeping the bed and bed-clothes, draperies, furniture, &c. &c. perfectly clean and dry.

"The defects of warm air ventilation, as usually carried into operation, are these:—The greater number of cockles, erected to ventilate by warm air, transmit only a small quantity of this fluid, and the portion they do transmit is considerably too hot. The respiration of such an atmosphere is oppressive, and its drying properties, in absorbing the moisture from our lips, nostrils, and eyes, render it unpleasant. In general those who erect these cockles are unable to obtain a sufficient current of air, without overheating it, by passing it over red hot iron or metal. The apartment is heated by a small current of burned air, which is disagreeable and unwholesome instead of being heated by a large stream of air moderately warmed. From defective arrangement, the hot air of these cockles is mixed with other impure gases. The difficulty of commanding a full current of *warm* air, under all circumstances, has been found so great, and indeed, I may add, so insuperable, that mechanical means, such as fans, air-pumps, steam-engines, &c. &c., have been employed to force the current. The Bank of Ireland is heated by hot air, propelled into it by a pump, worked by a steam engine. The large and splendid Library of Trinity College was adequately heated by warm air, without any mechanical agency whatsoever, and four times the volume of air was passed into it, from the caleducts in communication with the hypocausts, as was transmitted by a forcing pump and steam engine into the Bank."

Eighteen Views of the Giant's Causeway and neighbouring Coast. Dublin: Hardy and Sons. London: R. Groombridge.

THIS is a neat little pocket volume, containing views of the principal scenes that fall in the way of the Antrim tourist, and which will serve to remind him on his return home of the magnificent views which he may have witnessed. We have got one of the plates to illustrate this number of our Journal. The letter-press consists of short and interesting descriptions of the different places represented. We can recommend this very portable pocket companion to those who are about to visit this magnificent and romantic scenery.

Literary & Scientific Meetings, &c.

PROCEEDINGS OF THE ROYAL IRISH ACADEMY.

DR. ANSTER, on the part of Dr. Luby, F. T. C. D. read a letter of the late Rev. Charles Wolfe, author of the lines on the burial of Sir John Moore. The letter, or rather fragment of a letter, had been found by Dr. Luby among the papers of a deceased brother, who was a college friend of Wolfe and of Mr. Taylor, to whom the letter was addressed. The part found had the appearance of having been torn off from the rest of the letter. It contains the address; a complete copy of the ode; a sentence mentioning to Mr. Taylor that his praise of the stanza first written led him to complete the poem; a few words of a private nature at the end of the letter, and the signature. There is no date on the part preserved; but the postmark of September 6, 1816, fixes the time at which it was sent. Dr. Anster read passages from Captain Medwin's "Conversations of Lord Byron," and Archdeacon Russel's "Remains of Wolfe," in which mention is made of the various guesses as to the author, when the poem first appeared, without the author's name, in the newspapers and magazines. It was attributed to Moore, to Campbell, to Wilson, to Byron, and now and then to a writer in many respects equal to the highest of these names, whose poems have been published under the name of Barry Cornwall. Shelly thought the poem likely to be Campbell's; and Medwin believed Byron to be the author. When Medwin's book appeared, in which this was stated, several friends of Wolfe, amongst others Mr. Taylor, to whom was addressed the letter, of which an important part has been fortunately found, stated their knowledge of Wolfe's having written the ode. One gratifying result of the controversy was the publication by Archdeacon Russell, of the Remains of Charles Wolfe, with a Memoir, written with great beauty, and, what constitutes the rare charm of the work, describing with entire fidelity the character, and habits, and feelings of one of the most pure minded, generous, and affectionate natures that ever existed. The question as to the authorship of the ode was for ever set at rest to any one who had seen either the letters of Mr. Wolfe's friends, at the time of Captain Medwin's publication, or Archdeacon Russell's book. Were there any doubt on the subject of authorship, the document now produced would completely remove it. The poem has been more frequently reprinted than almost any other in the language; and an almost necessary consequence of such frequent reprints, it is now seldom printed as it was originally written. It has been often translated; and the strange blunders which have got into our copies are faithfully preserved in the translations. In a German translation of the ode, three stanzas of a poem, consisting of but eight, are spoiled by the translator's manifestly having read an imperfect copy of the original. We give below an exact copy, as found in the letter, just observing that the two words printed in italics were obliterated by the seal, but no doubt can remain of their being supplied as in the original. We have no doubt of our readers feeling gratified at this authentication of such a beautiful poem. The description contained in it is *historically true.* "As the departed hero had often expressed a wish, if he should be killed in battle, to be buried where he fell, the body was removed at midnight to the citadel of Corunna. A party of the 9th regiment dug the grave, to which his mortal remains, wrapped in a military cloak and blankets, were conveyed by the officers of his family, the funeral service being read by the chaplain." Buonaparte is reported to have said when he heard of Sir John Moore's death, "England has lost her only soldier." Marshal Soult, who commanded the French in the engagement, ordered a monument to be erected to his memory on the spot where he fell, and as a testimonial of regard, he sent all the wounded officers and soldiers to England on their parole, together with the women and children.

THE BURIAL OF SIR JOHN MOORE.

"I have completed the Burial of Sir John Moore, and will here inflict it upon you; you have no one but yourself to blame for praising the two stanzas that I told you, so much."

Not a drum was heard, not a funeral note,
  As his corse to the rampart we hurried:
Not a soldier discharged his farewell shot
  O'er the grave where our hero we buried.

We buried him darkly at dead of night,
  The sods with our bayonets turning:
By the struggling moonbeam's misty light,
  And the lantern dimly burning.

No useless coffin enclosed his breast,
  Not in sheet or shroud we wound him,
But he lay like a warrior taking his *rest*,
  With his martial cloak around *him*.

Few and short were the prayers we said,
  And we spoke not a word of sorrow.
But we stedfastly gazed on the face that was dead,
And we bitterly thought of the morrow.

We thought, as we hollowed his narrow bed,
  And smoothed down his lonely pillow,
That the foe and the stranger would tread o'er his head,
  And we far away on the billow!

Lightly they'll talk of the spirit that's gone,
  And o'er his cold ashes upbraid him,
But little he'll reck, if they let him sleep on
  In the grave where a Briton has laid him.

But half of our heavy task was done,
  When the clock struck the note for retiring,
And we heard the distant and random gun,
  That the foe was sullenly firing.

Slowly and sadly we laid him down,
  From the field of his fame fresh and gory:
We carved not a line and we raised not a stone,
  But we left him alone with his glory.

PRESENTATION OF A GOLD MEDAL TO DR. KANE.

[*Communicated.*]

A MEETING of the members of the Royal Irish Academy was held on Monday, the 26th ult in the Academy-house, Grafton-street—Sir WILLIAM HAMILTON, President, in the chair. The attendance was numerous, and many of the most distinguished literary men of the city were present. His excellency the Lord Lieutenant, attended by two aides de-camp, arrived at half-past eight o'clock, and took his seat on the right of the chairman.

DOCTOR TODD, F.T.C.D. read a paper on the Ancient Irish Ogham character, explaining the arrangement of the characters found engraved on stones in various parts of this country—a very fine specimen of which is now in the learned doctor's possession. He illustrated his paper by a trace from the inscription, and exhibited an ancient manuscript from the library of the Academy, in explanation of his ideas on the interesting subject. In conclusion, he stated that so little was as yet known of this portion of **IRISH ANTIQUITIES** that he hoped the Academy would offer a premium for the best essay on this very interesting subject, which might have another desirable effect, viz. that of saving these objects of curiosity from destruction.

RICHARD GRIFFITH, Esq. read a paper by W. **HEMANS** on a curious formation of the Calpe Rock strata through which the Dublin and Drogheda Railway passes. The drawings and sections which accompanied the paper were beautifully executed.

The literary business having been disposed of, the **CHAIRMAN** said that he had much pleasure in announcing to his Excellency and the members of the Academy, that the Council, in discharge of the trust reposed in them, had come to the resolution of awarding a gold medal to their distinguished countryman, Dr. Kane, for his admirable treatise upon ammonia. (This announcement was received with loud and general applause by the auditory.) The learned chairman then proceeded to allude in a scientific manner to the high importance of this substance as a chemical agent; and having adverted to the numerous researches that have been made into its properties and composition from time to time by various professors, and more particularly to the important doctrines which have been promulgated concerning it by the eminent chemist whose name he mentioned, he summoned Dr. Kane to the left-hand side of the chair, and assured him of the gratification which he experienced in informing him that the council (while they did not by this act necessarily pledge themselves to all his views) had determined upon awarding to him the Cunningham gold medal as an acknowledgment, and in some degree as a reward, for the research, learning and ingenuity which he had displayed in his treatise upon ammonia (loud cheers). He (Sir. Wm. Hamilton) felt honoured at being enabled, in the name of the Royal Irish Academy, and under the auspices of the distinguished presence in which they stood, to present Dr. Kane with this, the highest distinction which the academy had it in their power to confer for any single scientific paper; and knowing as he did the character of Dr. Kane, he had no doubt that he would accept the honour with due appreciation; regarding it as an acknowledgment for the past and an encouragement for future exertion (continued applause).

The learned chairman then handed to Dr. Kane a massive gold medal, of beautiful workmanship, amid loud and enthusiastic plaudits, in which the lord lieutenant cordially joined.

DR. KANE briefly returned thanks. He need not assure them he received, with a degree of gratification which he was powerless to express, the reward which, under circumstances so flattering to his feelings, had been conferred upon him by the academy. He would not affect to conceal the fact that the inquiries which he had instituted into this branch of chemical science had cost him, for many years, much labour, study and anxiety; but if this were not the case he never could have hoped to attain the degree of merit which was requisite to the attainment of their favour; and in this much-prized token of their approval he found a more than adequate reward for all his exertions.

The assembly broke up at eleven o'clock. The session closed until November.

DUBLIN NATURAL HISTORY SOCIETY.

[*Communicated.*]

THE members held the last meeting for the session at their rooms, 202, Great Brunswick-street, on Friday evening.

WM. J. HUGHES, Esq. C.E. in the Chair.

Mr. Allman presented a beautiful specimen of the nest of the tree wasp, (*Vespa Britannica,*) obtained in the county Cork by the Rev. Thomas Hincks. Mr. Allman explained its great beauty of construction, and the architectural skill shown by the indefatigable insect in the mathematical exactness of the arrangement of the cells, and the incessant labour that is carried on for the completion of the numerous layers which form the walls and bound the terraces of the city. The nest is nearly similar in material and structure to that of the common wasp (*Vespa vulgaris*); but instead of being formed in hollows in the ground, it is swung from the extremity of the branch of some tree, most frequently from that of the silver fir. Mr. Allman then noticed the existence of a peculiar stinging power possessed by the Helianthoid zoophytes. The Acalephæ, he observed, were remarkable in exuding a luminous fluid, exhibiting a highly phosphorescent surface, and the secretion of the tentaculæ in many of the larger Acalephæ of the warmer seas inflicts a severe stinging, and even a numbing pain; hence the name of the order Acalepha—netile animal. The Portuguese man-of-war (*Physalia pelagica*) floats in the Australian seas like an inflated bladder, spreading for a sail its beautiful purple membrane, similar to the velella of our coasts. It sends to some depth its numerous tentaculæ, which hang down, displaying the most vivid hues. Mr. Bennett describes having suffered intense pain from the contact of their tentaculæ, causing a benumbing influence in the sentient nerves of the arm. Another branch of the animal kingdom, the Helianthoid zoophytes, Mr. Allman experienced to have in some degree a similar power. In one of his excursions in Glandore harbour, when employing the dredge, Mr. Allman was struck with the very remarkable fetor from the production of the dredge, and on examining carefully to ascertain the cause, traced it to be given out by a species of anthea, which was plentifully taken. The odour, was very powerful on emptying the dredge. On investigating more closely the cause and character of this odour the most intense pain was given by the acrid and fetid fluid that exuded from the tentaculæ of the creature—the mucous membrane of the nose became highly inflamed from the severe stinging power that this secretion possessed, and a hard inflamed rash, resembling urticaria, was produced, with a diffused redness, tension, and great pain. This anthea, which Mr. Allman supposed to be A. Cereus, attaches itself to the zostera marina, and has numerous nonretractile tentaculæ. As this power in the Helianthoida has not been before noticed, Mr. Allman considered that facts so ascertained were important as adding truth to science.

The Chairman, addressing the meeting previous to its being dissolved for the session, said:—Gentlemen—This being the last meeting of the society, previous to our separating for the summer recess, I take advantage of the opportunity afforded me of referring to such matters as may not be considered within the scope of the report of your council; and in doing so I have great pleasure in remarking to you the advantages which have been derived from communications in the various branches of the science of natural history, and which, as we advance in strength, will become serviceable in the formation of our proceedings, taking within their range subjects of zoology, botany and geology, together with those useful sciences, anatomy and chemistry.

In all the branches here named we are fortunate enough to have proficients amongst our members, who give to us in the form of papers the extended experience of their study, and add thereby to the fund of information.

In speaking of what has been done, a glance at the society and its objects may not be here out of place.

We met together to form a society which would have for its object the advancement of science, by making the entire system of creation the field of our labours, and by extending our observations endeavour to elicit something new, or to familarise and explain what is already discovered within the range of our limited sphere.

Taught by habitual analysis of the evidence before us rightly to esteem facts, and trained by a practical logic to the vigorous use of our reasoning faculties, the observer insensibly acquires an abstract love of truth which renders the mental powers pliant and ready to bend to objects at once useful and sublime.

It is necessary, from the variety of the subjects of our study, that we should, for convenience, divide our forces into sections, and under different heads follow the objects of our inclination, by which means we will be better enabled to extend our physical knowledge and the importance and relations of its different branches; some are engaged in observing the habits and manners of animals—some the vegetable kingdom—and others in experimental observations on the actions and properties of inanimate nature.

By dividing the system into two grand divisions, animate and inanimate, I have taken the Linnæan arrangement as the standard; he reduced the study to a simpler form than had been previously known; life was the system from which he calculated the importance of all objects, making the animal and vegetable kingdom first in the scale of nature, embracing zoology and botany, with their subdivisions arranged into classes, orders, genera, and species, dividing the whole animal kingdom into six classes, the characters of which he takes from the internal structure of the animals. They are, 1st, mammalia; 2nd, aves, birds—ornithology; 3rd, amphibious animals; 4th, pisces or fishes—ichthyology; 5th, insects—entomology; 6th, vermes, or worms. The character of the two latter classes are the same, with the exception that class 5th are furnished with antennæ or feelers, and class 6th are furnished with tentaculæ.

Botany is the science which includes the practicable discrimination, the methodical arrangement, and the systematic nomenclature of vegetables.

Vegetables are organised productions, supported by air and food, endowed with life and subject to death like animals; they require nourishment for their sustenance, and air, light and situation are necessary to the welfare of their condition. That such is the case must be evident to all who have seen plants growing in a situation for which they are not suited. Those who have gathered a rose know how soon it withers, and the familiar application of its fate to that of human life and beauty is not more striking to the imagination than philosophically correct.

The second grand division includes geology, mineralogy, and by some astronomy.

Geology and mineralogy comprise the history of inanimate nature, and are of great importance in a practical point of view.

Being intimately connected with the comforts and luxuries of life, a knowledge of anatomy and chemistry is essentially necessary to the study of natural history; all the arrangements and classifying depends upon noting the things in which the objects agree or differ, whether animals, plants or minerals; and the anatomical qualities of the one and the chemical qualities of the other greatly assist their correct arrangement.

Anatomy is a necessary study to the naturalist, as being the rules by which the comparison of the systems of each individual of a species, whether it resembles or is unlike another in its structure, is known.

Chemistry may be regarded as that department which notices the changes in natural bodies that are not accompanied by sensible motions; its investigations are confined to the determination of the ultimate materials of which they are composed. In its objects it differs from mechanical philosophy, which surveys masses and calculates distances, taking cognizance only of those physical actions which produce no real change in the properties of the bodies operated upon. As a science it is intimately connected with all the phenomena of nature—it explores the bowels of the earth, and lays open to us the attractions and combinations which were going on there in those ages of which geology tells. The only illustrations which we have received of the vegetation of plants have been from its investigations, and its examinations inform us of our extraordinary structure of body—our bone and muscles, flesh and blood. It investigates the functions of respiration and unfolds the absolute necessity of having pure air to breathe for the support of health. In fact, the boundless range of the science of chemistry, and the inherent complexity of its inquiries, extends its influence into every branch of existence.

Entering thus into the descriptions of the various branches of which the science of natural history is composed, will, I am sure, be excused, considering that those about me are intimately acquainted with the facts stated. It is with the object of drawing the attention of persons to other branches of this vast range of science, than those generally treated of, these observations are made, aware that it is the impression on the minds of some that we interfere with other societies formed for the investigation of isolated subjects, on which account many who might become useful members are deterred from not knowing that we act independently of all other societies. Our object at starting was to increase our enjoyment by mutual instruction, and the advantage of the discoveries and experiments of our fellow members, without confining ourselves to any single matter of observation.

It has been justly stated "that no man knows the powers of his mind until they have been exercised." There are many persons who have been left in obscurity for the want of some means of exercising their capacity, and this society gives generally such facilities to all, without in any way interfering with the objects of other societies. It is to be hoped that the council at each successive termination of the sessions will have the gratification of observing on the useful information contained in the papers laid before you; and the desire on your part of affording that information will testify your co-operation, by carrying out the intentions of the society.

I have pleasure in noticing that your council, with a laudable desire to extend the advantages of knowledge, purpose giving an annual premium for the best essay on some subject of natural history, to be named by the council. The subject chosen for competition this year is "The Fishes of Ireland," which, it is to be hoped, will lead to useful results from the information acquired by this means, particularly as the subject of the fisheries of this country has engrossed the attention of the legislature for some time past.

Let us now conclude, remembering how high a gratification remains in the contemplations of nature—not a step can we take in any direction, without perceiving the infinite wisdom and goodness of the Almighty—the most extraordinary traces of design and skill everywhere conspicuous, are calculated, in so vast a proportion of instances, to promote the happiness of living creatures, and especially of our own kind. If we knew the whole scheme of Providence, every part would be found in harmony with a plan of absolute benevolence. "The pleasures of science go hand in hand with the solid benefits derived from it; they tend, unlike other gratifications, not only to make our lives more agreeable but better; and a rational being is bound by every motive of interest and of duty, to direct his mind towards pursuits which are found to be the sure path of virtue, as well as happiness."

Donations.—Rules and Regulations of the Botanical Society of London, presented by the society. Nest of the Tree Wasp (*Vespa Britannica*) by the Rev. Thomas Hinks.

Members Admitted.—John Conry, Esq., Jervis-street Hospital; and the Rev. Thomas Hincks, Corresponding Member, London.

The Museum of the Society will be closed until November, the Council finding such an arrangement necessary to arrange and catalogue the collection.

IRISH ARCHÆOLOGICAL SOCIETY.

A general meeting of the Irish Archæological Society was held in the Board-room of the Royal Irish Academy, on Tuesday, the 27th day of June—

The Most Noble the Marquis of Kildare in the Chair.

The Secretary read the following report from the council:—

The hope expressed in the last report of the council, that this society would be more extensively supported by the nobility and gentry of Ireland, in proportion as its objects were made better known, has been partially, but not fully realised. Ninety-three new members have been added to the society during the past year. This increase is due partly to the circulars issued by the council, inviting such persons as they thought likely to take an interest in our design to join the society; but it is more especially the result of the liberal offer made by a nobleman, to whom the society, from its first formation, is deeply indebted for the warm interest he has at all times taken in its welfare. In October last, Viscount Adare proposed to the council that he would become responsible for five subscriptions, or procure the same number of additional members, provided fifty members could be induced to engage each to procure one additional member before the 1st of July next, on the same conditions; and if one hundred members were found to make this engagement Lord Adare undertook to become responsible for ten. In consequence of this liberal offer the council sent a circular to the members to inform them of it, and to ascertain whether fifty members could be found willing to follow such an example. The result has been that thirty-nine members only undertook to make themselves responsible for the additional member, of whom twenty-seven have already fulfilled their engagement, and some have done much more. On the whole, however, forty new members have already been added to the society by the exertions of those who have responded to this call, exclusive of nine new members procured by Lord Adare, who has thus fulfilled nearly double his original engagement, although the proposed conditions have not been fully complied with by the society. The council have next to announce that through the kind offices of the Marquis of Ormonde, his Royal Highness Prince Albert has become a life member of the society, and has been graciously pleased to accept the office of patron.

The council have to record the loss by death of five of the original members of the society:—The Right Hon. and Right Rev. Stephen Creaghe Sandes, D.D., Lord Bishop of Cashel, Emly, Waterford, and Lismore; the Right Hon. Lord Fitzgerald and Vesci; the Right Hon. Lord Vivian; Maxwell Blacker, Esq., Q.C.; and John Hely Hutchinson, Esq.

The entire annual income of the society arising from the entrance fees and annual subscriptions of the members, including the interest of £400 new 3½ per cent. stock, cannot be calculated as exceeding £400 a-year; and the council have therefore been under the necessity of making an alteration in the arrangement of the books originally proposed for the years 1841 and 1842—an arrangement which, as was stated in the last report, very far exceeded the actual means of the society; and which was at first adopted in the hope that a number of members would have been obtained sufficient to justify the outlay that it involved. As this, however, has not been the case, the council have found themselves compelled to make the change which has already been announced in the list of publications, printed at the end of the volume recently issued. To expedite the delivery of the books to the English members of the society, the council have appointed Mr. T. Clerc Smith, 13, Henrietta-street, Covent-garden, to be the society's agent in London; and Mr. Thomas J. Stevenson, 87, Prince's-street, Edinburgh, to be their agent for Scotland; and they have made arrangements, suggested by experience, which it is hoped will in a little time very much facilitate the collection of the society's income, and insure regularity in the transmission of the publications to country members. They have likewise made a permanent agreement, very advantageous to the society, with Mr. O'Donovan and Mr. Curry, for transcribing and editing such works in the Irish language as may be proposed for publication; and they are happy to be able to say that several works which it is hoped will prove to be of great interest to the lovers of Irish history and antiquities, are in preparation. The account of the Tribes and District of Hy-Many, edited, with copious notes, by Mr. O'Donovan, is nearly ready, and will be issued in a few days. It contains a great body of genealogical and topographical information, highly creditable to the editor's learning; and although to the general reader it may not seem much more than a dry list of names and places, yet they who are really in search of the true materials of Irish history will appreciate it as a valuable contribution to our ancient literature. The Book of Obits and Martyrology of Christ Church Cathedral, edited by Mr. Crosthwaite, is completed, as far as the text of the work itself is concerned: it only now waits for the editor's preface and notes, which his numerous other engagements have prevented him hitherto from completing. The registry of the Monastry of All-Hallows, which occupied the site where Trinity College now stands, is in the press. This work was at first undertaken by the secretary, but finding his time so much occupied in the necessary superintendence of your other publications, and by his professional engagements, he prevailed upon Mr. Butler to undertake the work. The society are indebted for permission to print this work to the Provost and Senior Fellows of Trinity College, who, with their usual liberality, have lent from the University Library the original MS., which is now in the course of being collated with the printed sheets, under the superintendence of Dr. Aquilla Smith. The thanks of the society are also due to the Right Hon. the Lord Mayor and the Corporation of Dublin, who have kindly given Mr. Butler and Dr. Smith access to their valuable collection of ancient deeds and charters, which contains the originals of several of those that occur in the registry, and some others relating to the monastery, which are not inserted in the registry, and which will be printed in the appendix. One of these will be engraved in *fac simile* for the work, having been lent to the council by the Corporation for the purpose. The account of the tribes and customs of the district of Hy-Fiachrach, in the counties of Sligo and Mayo, edited by Mr. O'Donovan, is in the press; and will prove a valuable addition to the sources of Irish history. It is an important sequel to the tract on Hy-Many, and with it will contain an account of all the great Irish families of a large portion of the province of Connaught, together with illustrations of many curious customs, laws, and manners, of the native Irish clans, previous to the English conquest. The council have also put to press the first volume of a Miscellany, to contain such shorter pieces, deeds, letters, poems, &c., as would not admit of a separate publication, and are nevertheless of importance, as throwing light on dates, customs, or ancient opinions, and manners. The council earnestly invite the nobility and gentry of Ireland to contribute from their family records to this publication. There are few noblemen or gentlemen who do not possess some letter, deed, or document, illustrative of the history of this country, or of their own illustrious ancestors. The contribution of such papers to the Miscellany of the Irish Archæological Society will be received by the council with grateful acknowledgments. The other publications advertised as in progress, are almost all ready for the press as soon as the funds of the society will permit their being undertaken. Sir William Petty's Narrative of his proceedings in the survey of Ireland will probably be the next of these works ordered for publication, and will doubtless prove highly interesting to our members, as well from the importance of the MS. itself, as from the peculiar qualifications of the editor who has undertaken to illustrate it. The council have also to congratulate the society, that through the liberality of Professor MacCullagh, the MS. of the original Latin of Colonel O'Kelly's curious tract entitled 'Macariæ Excidium, or the Destruction of Cyprus,' has been placed at their disposal; and that Denis Henry Kelly, Esq., of Castle Kelly, has consented to prepare a translation, to which notes are to be appended by Mr. O'Callaghan. The society are aware that an English version of this tract, and as it now appears, a very imperfect version, from a MS. in the library of Trinity College, was one of the first publications undertaken by this society; but after two or three sheets of it had been printed, it was discovered that the same work, from a MS. preserved in England, had been advertised, and was about to be published by the Camden Society of London. The council therefore suspended the work, and when they found that the tract published by the Camden Society, under the editorial care of Mr. T. Crofton Croker, was almost identically the same as that which they had proposed to print; they abandoned altogether the idea of its publication. Subsequently, however, Mr. O'Callaghan discovered that the original Latin existed in this country in the hands of a private individual, from whom it has since been purchased; and it is now found, upon collating this MS. with Mr. Croker's printed copy, that many pages of the original have been omitted, and that therefore the publication of the work, in its original and more authentic form, may now be undertaken, without the appearance of interfering with any other society. Cormac's Glossary is still in Mr. O'Donovan's hands; and the council have resolved upon deferring still further its publication, in the hope that Mr. O'Donovan, who will have occasion to visit London next winter, may be able to obtain material assistance in preparing it for the press from the MSS. of the British Museum. They hope also that Mr. O'Donovan, during his stay in England, may have leisure to visit the Bodleian Library, and, if permission can be obtained, the valuable libraries of some private collectors; that thus he may be enabled to form some opinion of the contents of those repositories, as far as Irish MSS. are concerned. It is not improbable that several of our ancient records, whose existence is not now known, although they are spoken of as having been extant in the last century, may be discovered either in private hands, or in the public libraries in England, where Irish MSS. are preserved. At all events it is of great importance, before the more difficult and laborious work of editing our ancient Brehon Laws, Annals, &c., &c., is undertaken by the society, to ascertain what MSS. of them are in existence in England, as well as what Glossaries or other helps towards the elucidation of them are accessible; and it is to be hoped that in proportion as the objects and character of this society become known, and its publications are seen and read, the possessors of these ancient records of our country may be the more induced to afford such facilities as they can for the examination of their libraries, and for the collation and comparison of their MSS. Without this, the society will be compelled to publish from such MSS. only as are accessible to them in Dublin: a disadvantage which the council have hitherto endeavoured as much as possible to avoid, by postponing the more difficult and important works which lie before them, until a better knowledge can be obtained of the contents of the Irish MSS. preserved in England and on the continent of Europe, and until the society and its objects shall become so far known, that access to such collections may more readily be conceded.

The report having been read, it was resolved unanimously:—"That the report read be received and printed, and that the thanks of the society be given to the council for their services. That the thanks of the society be given to Viscount Adare, for the warm interest he has always taken in the welfare of the society, and especially for the late successful proposal made by him for the increase of the number of our members. That Dr. A. Smith and Mr. Hardiman be appointed auditors of the society for the ensuing year, and that their statement of the accounts of the society be printed with the report. That the thanks of the society be given to the president and council of the Royal Irish Academy for their kindness in granting the use of their room for this meeting."

His Grace the Duke of Leinster was then elected president of the society for the ensuing year.

The Rev. the Provost of Trinity College having been requested to take the chair, it was moved by the Right Hon. the Chief Remembrancer, seconded by Captain Larcom, and resolved unanimously:—"That the thanks of the Society be given to the Most Noble the Marquis of Kildare for his conduct in the chair at this meeting, and for the countenance and support he has given to the proceedings of this society." And then the society adjourned.

ROYAL DUBLIN SOCIETY'S GARDENS AT GLASNEVIN.

THE COFFEE TREE—COFFEA ARABICA.

THIS handsome growing evergreen cannot but be an object of much interest, and well worthy of particular notice, especially when we recollect how much we are indebted to this plant for the very grateful and nourishing beverage derived from its roasted seeds. The coffee tree, even in its native Asia, does not appear to grow to any great size; and in cultivation it is seldom allowed to exceed eight or ten feet in height. In the West Indies we understand it is frequently cultivated between distant lines of the shady banana. In this way the plantations must have a very imposing appearance; and when in flower, shed an atmosphere of the most delightful fragrance. The jasmine-looking flowers of this plant are said to be particularly sweet after sunset. The berries, or fruit of the coffee, are produced along the young shoots of the tree, from the axils of the leaves. They are at first green, then red, and when perfectly ripe, of a blackish brown colour. Each berry contains two, sometimes three, seeds, of an eliptic form, convex on one side, flat on the other, with a longitudinal cleft of a pale glaucous colour, and covered with a substance like paper, which is the well-known coffee.

Coffee, it is said, was introduced into Arabia from Persia, about the middle of the fifteenth century, and into England by a Turkey merchant of the name of Edwards, about the middle of the seventeenth century.

The coffee tree was brought into the West Indies from Mocha, by the indefatigable Dutch, about a century ago.

This valuable tree belongs to the natural order, Chinchonaceæ, a tribe of plants numerous and of much importance in medicine, the *bark* and *roots* of many of them producing some of the most powerful preparations of the apothecary; such, for instance, as the Ipecacuanha, derived from the *roots* of the *Cephalis Ipecacuanha*, and the powerfully tonic principle, *Quinine*, obtained chiefly from the bark of several species of *Cinchona*.

The roots of the common yellow Iris, *Iris pseud-acorus*, or flagger, when dried and *roasted*, has been found to approach the coffee very nearly in flavour.

ETHNOLOGY.

Extracts from an Address on the study of Ethnology, by Dr. Ernest Dieffenbach, read at a Meeting prelimary to the formation of the Ethnological Society, held at Dr. Hodgkin's, 9, Lower Brook-street, Grosvenor-square, January 31, 1843.

THE different races of which the Human Family is composed are distinguished from each other by certain anatomical and physiological marks; which, although they do not justify us in dividing mankind into classes, genera, and species, as we do with plants and animals, yet they are to a certain degree very durable and lasting, and, in the opinion of some very distinguished writers, even constant. If we take the civilised nations of Europe, Asia, and America, as an instance, we find everywhere a distinct type of formation and features—of physical, intellectual, and moral character—various religious ideas, and different forms of social life—peculiar sympathies and antipathies, enduring for long ages of national existence—manifold adversities, mixtures, and migrations. And what is the case in Europe, especially where we should imagine civilization to have thrown down all barriers and extinguished all differences between nations, is still more the case with nations more widely different: and for this reason we are able to divide mankind into large families and subdivisions, and to establish a description of them, in as concise terms as the botanist, when he examines the plants of a certain region of the globe. The study of this, the Natural History of Man, is what has been termed the Science of Ethnology.

This country, above all others, seems to be qualified to open a new era for this important science; and yet, although societies exist for all possible branches of human knowledge, we have not yet established a society to investigate the natural history of man. The sceptre of England sweeps the easternmost boundaries of Asia, and the westernmost of America. The Anglo-Saxon in the seas of China, approaching from the westward, gives his hand to the fur-merchant at the western coast of America, who arrived there from the eastward. England encircles the globe in glorious enterprise: her sons come in contact with the Esquimaux of the Arctic Seas, with the red hunter of Northern America, with the cunning Chinese, with the mild Hindoo, and with the mountaineer of Affghanistan. The same is the case in the southern hemisphere. New empires are springing up in New Zealand, New South Wales, Van Dieman's Land, and at the Cape of Good Hope, where the Englishman has intercourse with man in the most opposite stages of development. No nation, therefore, has such opportunity for investigating the history of races:—for no nation is it so essential to be well acquainted with these races. Much material, it is true, is dispersed in the works of navigators and travellers: but a society is wanting, for collecting, sifting, and extending such information—a focus for travellers of all nations, where information regarding the human race may be received and given—a society, which will not reject the minutest detail that may elucidate the history of the human race, and spread an interest in the subject among the different classes of the community.

We may examine the races of men under two different points of view. 1st, we may glance at them as they present themselves at the present moment, contemporaneously: and 2dly, we may not only trace back the nations to their sources, and from actual remains and historical survey give a true picture of the changes which their physical nature has undergone in the vicissitudes of time, but we may bring to light the nations which have disappeared. The latter may be termed the Historical part of Ethnology. The natural history of plants and animals presents the same two points of view. The naturalist is no longer satisfied with being acquainted with the different plants and animals as they exist at the present moment: many genera and species have existed in times gone by, and have been lost in the succession of ages: from their remains, imbedded in the crust of the globe, he obtains not only an insight into the changes which the latter has undergone, but the structural differences between extinct and existing species enable him to fill up any chasm which may appear in the natural system of the present day. He may restore the chain of that astonishing variety of creatures by means of fossil links, and humbly lift the veil from those great and harmonious laws which we see pervading the universe with every step that we advance in the knowledge of the animal and vegetable world.

It must be the object of the Ethnological Society, therefore, to obtain an exact knowledge of any nation or tribe, as they exist at the present moment. Ethnology begins with Ethnography—with an authentic description of the physical condition of each nation: and for this purpose it will be necessary to collect everything that will throw light on this subject. It is not sufficient that authentic sculls should be collected of all races, or casts of such; but whole skeletons. We have sufficient materials to distinguish races from the form of the skull, as there are large collections in England and on the Continent; but we are almost ignorant of comparative Human Osteology. We have no accurate data of the relative proportions between the abdomen and the chest, amongst the different races; of the number of vertebræ; of the shape and capacity of the pelvis; of the length and strength of the extremities. The muscles, the internal organs, and the organs of voice, have been still less thoroughly examined. The weight and structure of the brain of the European and Negro, it is true, have been compared by Tiedman and Soemmering, and have been pronounced to be identical in both; but no notice has been taken of the other races; and the few researches which have been made do not entitle us to form an opinion, either on the identity of the human race, or on the influence of external circumstances on the structure of parts. It cannot be doubted that marked differences exist in the average weight of the brain, and the development of its different parts: but further investigation is necessary, to show that they are constant. Still less has been done in regard to numerous interesting points connected with the fecundity of different races; in comparing the muscular strength of races, their durability, longevity, national diseases, and a great many other subjects.—It suffices here merely to indicate the fields of investigation with which the Ethnological Society should be occupied: it will be the especial duty of the Council to promote the publication of interesting matter contained in the books of travellers of different nations, and the illustration of their publications with accurately coloured portraits of typical specimens.

It is well known, that many nations are in the habit of marking their faces, and other parts of their bodies, with certain figures or lines. This custom existed amongst the ancient nations of the East, and we find it in all parts of the globe. To trace this singular custom through all its different degrees will perhaps be the means of identifying nations, though living at great distances from each other. Such an investigation will open an insight into the origin and real meaning of this custom, with which we are now all but unacquainted.

A subject which the inquirer into the history of the human race claims particularly as his own, as the most important and indispensable, is language. Language distinguishes man from the inferior animals. The communication of his inward feelings, the expression of his thoughts by means of words, is common to man, in all the different stages of physical, mental, and social development. From his language we can perceive the structure and disposition of his mind, his prevailing passions and tendencies: in language, the changes and revolutions which the mind of a nation has undergone have left indelible traces: its structure alone allows us to search into the character of a people, and throw a light into the dark labyrinth of their history, if no written or monumental record, and not even a tradition, has been preserved. Of all differences which distinguish races from one another, language is the most lasting and enduring; and where physical traits and peculiarities have lasted longer, this is only an exception to the rule. To destroy a language of a nation, is to destroy its nationality: it has been the object of all despots and conquerors, but has rarely been attained. By means of language we may trace the relation of one race, one nation, or tribe, to another; by means of language, alone, we can follow their migrations, and retrace them, step by step, to their source: language leads us back to those times when mankind was in its infancy; and we become acquainted with the laws which guided its gradual development, from a more primitive state to its present condition. If any thing can confirm the unity of mankind, and can bring it home to the most sceptic mind, it will be, when, by a thorough study of all the languages of the globe, we can prove them to be merely dialects, and derivations from one and the same source. But we are now far from such a result; and the Ethnological Society must, therefore, particularly devote its attention to collect materials for the study of comparative philology:* it must collect in its library, dictionaries and grammars of all existing languages and dialects, and encourage their publication. There are MSS. existing of various languages; but from a want of patronage, these materials (which have perhaps been collected during a life of trouble and hardship amongst barbarous nations, and which are of the utmost interest to the scientific) are scarcely of any use. In the library of the Ethnological Society such MSS. would find a most appropriate place.

In speaking of language, I wish to draw attention to those first beginnings of the art of writing which has been observed even amongst the rudest nations;—amongst the Indians of the Oronoco and Bolivia, the wandering tribes of North America, the natives of Australia, and in some of the Polynesian Islands. It is a writing in pictures, or rather in drawings, of animate and inanimate objects which are often found on rocks, on the wayside, or on trees, and represent the occurrence of some event. It is desirable to obtain exact copies of all such drawings, and to collect and compare them.

The great result of such a contemporaneous study of the races of man will be the construction of an Ethnological Map of the World. An ethnological map must represent the geographical limits of people of the same origin and language: it must also bring before the eye the subdivisions of a principal race, its migrations and intermixtures. Such a map will, no doubt, present to the eye, especially in countries which are continental and contiguous, a law of the migrations of man, as dependent upon the physical geography of the different countries, upon their systems of mountains, great rivers, and valleys; or, in islands, upon the directions of atmospherical and marine currents. In this respect, it will show how indispensable the study of geography is to the ethnologist, and in what manner the two sciences are connected. I am happy to mention here, that two of my friends, Gustaf Kombst at Edinburgh and Wilhelm Obermüller at Paris have lately published such maps of Europe, and part of Africa and Asia, which must be regarded as a great acquisition to the study of ethnology, and will contribute much towards making the science more popular. Both maps are somewhat different in their construction; but both the methods pursued by these gentlemen have their advantages. Gustaf Kombst's map is more elementary: he has sharply marked where, in his opinion, two races separate; and, from its graphical execution, and the lucid explanation which accompanies it, he gives a very clear view of the principal races of Europe, and their physical and moral character. On the other hand, as nations are nowhere in nature so sharply separated, Wilhelm Obermüller has attempted to express their nearer or more distant relation by more or less vivid colours; and their mixtures and combinations, by mixtures and combinations of colours. An ethnological map of the whole world, constructed like these maps of Europe, does not yet exist; although the labours of the illustrious Klaproth, Ritter, Humboldt, and D'Orbigny have done much towards its completion. It will be the useful aim of the Ethnological Society to combine the labour of its members to produce such a map, on different modes of construction, that they may serve in public schools. Ethnological maps, however, must not only exist of the races of men at the present moment, but of any given time of man's existence; as, like the surface of the globe, and the still less constant political institutions, the dwelling-places of men are ever changing.

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* In this it does not clash with the Philological Society; on the contrary, it may render important service, by collecting materials for its use.

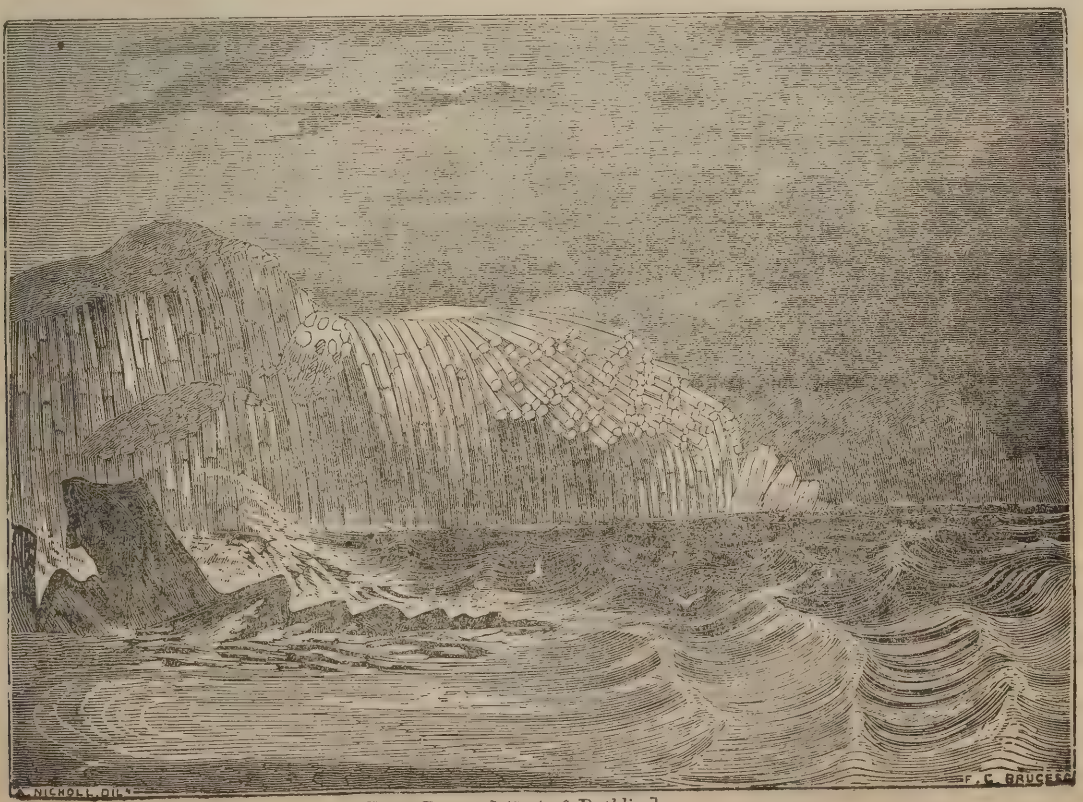
I trust I have said sufficient, in recommendation, and on the general purposes of ethnological studies. This country excels all others in producing great results in science by a combination of labour: let us hope that the science of man equally deserves such a combination;—that it will not only be supported by those who pursue sciences which will be mostly benefitted by a more extensive study of the physical history of man—by the politician, the physician, the historian, and the artist,—but also by those to whom a knowledge of man must be of great interest and vital importance, from their connections with the colonial possessions of this great empire. If we have examined, step by step, the physical history of the human race—if we have entered the wigwam of the Red Indian, and followed the hunter in obtaining the scanty means of his precarious existence—if we have endured an Arctic winter in the snow hut of the Esquimaux, and have ceased to sneer at him, when we find that no other life was possible under the circumstances in which he is placed—in one word, if we have traced humanity through all the forms, simple and complicated, rude and civilised, of social existence, and have found that in each state there is something recommendable, then, and not till then, shall we treat with consideration those who differ from us, instead of warring against individualities and forms which are not the same as our own.

"The scientific world has waged civil war, in its geological discussions, on the Huttonian and Wernerian theories. In exploring the source of the Nile—in seeking for the course of the Niger—in making voyages of discovery in order triumphantly to plant the British flag on the north pole of the earth—man has not been wanting in enterprise. In his endeavours to obtain the most accurate knowledge of every ocean, sea, or river—of every country—of every great range of mountains—of every cataract, or even volcano—and of every extraordinary feature of the globe—in the prosecution of these, and of similar inquiries, he has not been wanting in curiosity or courage. Into the natural history of almost every animal, and even of insects, he has microscopically inquired. To every plant and little flower he has prescribed a name. He has dissected the rays of light, and has analysed and weighed even the air he breathes: *and yet, with volumes of information on all these subjects, it is astonishing to reflect how little correct philosophical knowledge we possess of the real condition of man in a state of nature.*"—*Quarterly Review.*

Ireland.

DOON POINT.

The island of Rathlin is situated about six miles from Ballycastle, on the Antrim coast, and presents several remarkable basaltic appearances, amongst which Doon Point is very conspicuous. The stratification and shape of the land side might lead one to suppose that it once filled up Ballycastle bay, from which it was separated by some convulsion of nature. Hamilton derives its name from Eagh Erin, or fort of Erin. The finely situated ruin of Bruce's Castle is perched high in air on an elevated rocky precipice on the north side of the island. Robert Bruce fortified himself here when driven out of Scotland. The whole island is about six miles long, and occupies about 3400 acres, and the precipices on the north are about 450 feet high. From Bruce's Castle the coast and headlands of Scotland are distinctly visible.


A. NICHOLL, DEL.
F. C. BRUCE SC.

[*Doon Point, Island of Rathlin.*]

The substrata of the island are composed of basalt and white limestone intermingled : the latter is phosphoric when heated. In many parts the basaltic columns shoot out horizontally from the face of the hills ; in others they are perpendicular, and in some places they assume both these shapes, as well as the curved form. The plate which we give above is a good representation of a very interesting headland ; and the whole island is only a few miles from the Giant's Causeway, and is evidently a part of the same stratified district. When we visited it some time since we were greatly interested in its remarkable geological formation.

Newly discovered Irish Mineral.—Within the last few years several new minerals have been discovered in this country by an enterprising mineral dealer named Patrick Doran, whose name has been published by Dr. Thomson and others, as the successful discover. He has just exhibited to us another which he has lately added to the list, named Resinite, a siliceous mineral, containing silica 48.06, alumine 11.6, peroxide of iron 22.76, lime a trace, magnesia 2.37, water 15.

Agriculture.

The Onion Fly, *Anthomyia Caparum* a dipterous (two winged) insect, not unlike the common house fly, is the most common pest which attacks the onion, the leek, and the shallot; and as it frequently occasions very serious losses, the following details respecting it, by Mr. Westwood, may be useful. During the summer months, and especially in June and July, the cultivator of onions is annoyed by perceiving that here and there in various parts of his crops, the plants appear to be in a dying state, and the leaves fallen to the ground ; at first this is observed in plants which are only just above the surface of the soil, and which are not above the thickness of a straw. These soon die, and others of a larger size are observed to decay in a similar manner ; this continues until the middle of July, and even until the onions are full grown, at which time they have occasionally sufficient strength to survive the injury with the decay of a portion only of the outward layer or bulb, the centre part remaining sound. In this manner whole beds are destroyed, and it seems to be of little use to sow again, as the fresh sown plants share the same fate. In light soils especially, the attacks of this insect are very annoying to the gardener. On stripping off the coats of the young onion, it is at once perceived that the injury has been caused by a small grub, destitute of legs ; on pulling up a very young onion, its interior will be found to be destroyed by a single grub ; but in large plants as many as half a dozen have been observed. In summer these grubs arrive at their full growth, in about a fortnight ; and in about another fortnight, the perfect fly makes its appearance. The best preventative against the ravages of the onion maggot is said to be to apply gas tar to the land previous to sowing the seed. This may most conveniently be done by mixing a gallon of gas tar to a couple of barrows full of earth, mixing it well and leaving it in a heap for a few days previous to using it ; nitrate of soda has also been used with good effect ; and guano, both in powder and in the fluid state, has been found useful ; but the most certain means of escaping this pest, is to sow the seed in autumn, and to transplant the young onions in spring, for a main crop.

Usefulness of Moles and Birds.—"I had," he says, "a small field of rye grass and clover, one end of which, early in the spring, was like a honey-comb from working of moles. A farmer would have destroyed the workers ; I, on the contrary, protected them, and not one was destroyed ; but I took care to level the mould which they threw up almost every day. And now to the practical result. I lately cut my crop, which was a very good one generally ; but at the end where the moles worked, the crop was better than in any other part, and now not a mole can be discovered in the field. They did the work designed for them by a wise Providence—ate up all the grubs which would have destroyed my young plants, and then took their departure to some neighbour's field, where doubtless they will be trapped. Another remark as regards birds. For example, as to those small birds which are seen upon fruit trees, such as the titmouse, the vulgar opinion is, that they destroy the buds, and thus injure or ruin the crop. Now, I never suffer one of that kind of bird to be killed, but rejoice to see them, and protect them ; and I would rather see a superabundance of sparrows than none at all, even by way of profit; and the consequence is, that I have frequently had a crop of fruit when my neighbours have had none. Again, as you pass cottage gardens, you very frequently see the leaves eaten off the cabbages and gooseberry and currant bushes growing near the doors by caterpillars, whilst cabbages in the fields and fruit trees at a distance from houses are flourishing and left untouched. Here, again, the same cause is in operation ; the small birds, which would have destroyed the insects, are driven from the doors, but perform their natural operations at a distance from them."—*Correspondent of Penny Magazine.*

Peace.

THE VICE OF DUELLING.

"The dreadful tragedy which has been enacted since we last had the honour to address our readers, while it has made a marked and absorbing impression upon the public mind, has spoken almost as with a voice from heaven to the Christian spirit of the community, and has in a fearful form of moral warning, pointed to the great truth that the law of God is to be vindicated before the false pride and shame of that cruel human vanity which sets life upon its wicked hazard, and stains its brutal victory with blood. It will be felt at once that we allude to that dreadful and fatal duel which is everywhere the theme of conversation and reflection, a melancholy story told again and again in every corner of society, and sounding the echoes of its sorrow in every saddened home. The death of Colonel Fawcett, by the hand of the duellist, has created a far-spread sensation of horror, of which the army, the government, and the public opinion of the country, should with firm determination take quick and grasping hold, for the purpose of crushing, now and for ever, the vast enormity of that social atrocity which has carried the gallant soldier to an early and dishonourable grave. All the details of the circumstance, group themselves into a wretched and affecting picture.

Two officers are bound, not only by profession, but almost by relationship, in ties of brotherhood ; they are married to two sisters, and are thus drawn closer in the social circle than other men. One of them is in the strength of young manhood ; he has attained rapid distinction, and, covered with the glory of the soldier, is the pride and hope of a loving and relying wife—that wife a joyful mother too. The other is a beaten soldier, one who worked his way to the rank which this duel has dishonoured—the father of older children than his friend's—the husband of a wife chosen out of the same home. The two men had blended their worldly families and their worldly affairs; a momentary brawl ensues—the quarrel of an instant, quick, hot, decided, over as soon as begun—but its result is death. The cruelty of the world's pride steps in—the mockery of honour calls for its false vengeance—and the home-brawl of the moment becomes a horrible encounter of murder and cold blood. The distinguished young soldier is laid low, in the very prime of life and happiness, and almost by a brother's hand. His wife watches his ebbing spirit in hopeless but devoted misery, until her love and glory have passed away with *his* being ; and then rushes to the home of her orphan, and plunges her heart into the gloomy distraction of despair. Her sister may not console her there—she is the wife of the slayer of her husband, and she too may yet have to encounter the heart-rending spectacle of that husband's degradation under the accusation of murder at the criminal's bar. Sunshine has passed out of the two homes of trouble, and only from religion now can any light be gathered into their darkened rooms. And this shocking consummation of crime and wretchedness has been worked out in the name of honour, and under a mockery of social justice—false, merciless, and depraved.

Now, does not humanity call aloud to us, as it were, to interpret the will of God, and vindicate the holiness of Christianity, by making this crisis of human affliction the crisis also of the crime which gave it birth ? Wipe away the stigma of duelling from the world's escutcheon, and let the sin perish from the bosom of the land. Let the press and the pulpit assist the people to put it down. Let all human eloquence, and virtue, and power, have a voice for its extinction for evermore. Let the government legislate to make the duel not only what it is—a murder—but a fatal and withering disgrace. Set it up peremptorily as the sign of banishment from the army and navy of the country ; make it the bane of character, the curse of honour, the scorn and contumely of manhood, so that courage may no more be disgraced under its name. In the temples of God let the voices of the people's pastors discourse impressively of its folly in the sight of virtue, its desecration of the spirit of religion, its defiance of the commandments of heaven. Let families spurn its false principle, and all the affections be arrayed against it wherever women would go unwidowed, or children dread the desolation of the orphan's fate. There is a text in the past week's catastrophe for the preaching of philosophy and Christianity all the nation through. The bitter tears and prayers of of much affliction will hallow it ; and the moral will engrave itself indelibly upon the country's heart. Now, too, let it test the sincerity of that noble association, to the formation of which was some time back, awarded such hearty encouragement. . We remember that it enrols within its ranks, noblemen, statesmen, clergy, soldiers, sailors, and civilians of unimpeachable character and exalted rank, devoted to the utter extinction of the duel; and now is the favourable moment when, with reason and timely exertion, that triumph may be achieved. Let these philanthropists then concentrate all their influence upon the point; the occasion, though melancholy, is indeed worthy of the struggle. In these remarks, we are asking only for action upon enlarged principles for the future annihilation of the crime, and that this last deed of blood may set the crimson fiat upon its doom. But with the individual features of the case we do not meddle, since justice is not dead in England, and the public can feel no personal vengeance that should be stronger than the social law. Whatever result may eventuate, we know what lasting and poignant misery the implicated survivors of Colonel Fawcett must endure. The men who performed the wanton office of seconds, and mixed in a quarrel in which they had no sympathy that was not dishonourable — no pretence that was not false—could harldy have their punishment heightened, even by the disgrace which we presume the government through the head of the army will visit upon their crime. Their's is now the agony of spirit which is a retribution from heaven—the remorse which rends the soul; they may escape the law, but not the haunting power of conscience refusing to be lulled. Most of all must he feel torture who has worked out the fatal deed. If God ever bestowed upon him a heart, the strong worm of an agonising and eternal sorrow must be gnawing bitterly at its core: the law may disgrace, destroy, or release him, but it cannot give him rest; the blood that is upon him can only be wiped away in heaven.

We cannot conclude the comments which we have felt it our duty to make upon the horrible occurrence that has transpired, without most fervent aspirations that the spirit from which they receive vitality may work its pure purpose out; that humane and christian feelings of cordial love for the human race—of cordial hate for the crime which alloys its brotherhood—may swell into a broad, bright, and beautiful river of benevolence that may roll its waters with fair majestic grandeur over the dark iniquity of the duel, so that no trace of its barbarism be left behind to sully the character of the nation, outrage the home-affections of the people, and conquer that noble courage of virtue, which is the right arm of true honour and its fair unspotted shield.—*Illustrated London News.*

The foregoing extract so fully express our own opinion, that though we have been solicited from several quarters to give an article on the subject, we prefer giving this to anything which we could offer. It does equal credit to the head and to the heart of the writer. As long as men set up their erring judgments against the infallible rules of Scripture, they will act upon false principle, and fall on the right hand and on the left. The Scripture declares that if we do not forgive men their trespasses, neither shall we be forgiven. We know of no higher authority. The man who rejects this authority, chooses the other fearful alternative, and the blood of the murdered man is upon his head. But if no voice from heaven uttered its thunders in the dull ear of the darkened conscience, if the finger of the Divine Spirit never wrote its lessons of eternal instruction on the seared and insensible heart, we hold the decision of a quarrel by duel to be folly, absolute, unjust, unredeemable by one single principle of reason. If the guilty man were always slain, there might be an appearance of *justice*, however contrary to the requirements of Divine and human law; but when we reflect on the possibility of the innocent man, who is expected by a foolish feeling of pride to challenge his insulter, perhaps for a grievous injury, perhaps for one light as air, when we reflect on the possibility of this innocent man being slain, in addition to being the object of the insult, and this by an insulter, who is too often a practised duellist, seeking for a victim—when we reflect on all this, we do not hesitate to pronounce the custom a great public nuisance which ought to be abated by act of parliament, or by an act of the crown. That some such movement will soon take place, we confidently anticipate.

Sir Walter Raleigh was a brave knight, a courageous man of war; no one doubts his courage. An impertinent young man wished to provoke him in a public assembly, by spitting in his face. Such was his command of temper, that he coolly answered, " Young man, if I could as easily wipe your blood from my conscience, as this insult from my face, you should not live another moment." History affords the eulogy of its admiration to the magnanimity of Sir Walter Raleigh in much higher terms, than if he exercised the spirit of revenge. Let us all assist, as far as lies in our power, to put an end to a custom, which substitutes an unjust law for the *undeniable* commands of our Creator.

War.—Now view, with the eyes of your imagination, savage troops of men, horrible in their visages and voices; men clad in steel, drawn up on every side in battle array, armed with weapons, frightful in their crash and their very glitter; mark the horrid murmur of the confused multitude, their threatening eye-balls, the harsh jarring din of drums and clarions, the terrific sound of the trumpet, the thunder of the cannon, a noise not less formidable than the real thunder of heaven, and more hurtful, a mad shout like that of the shrieks of bedlamites, a furious onset, a cruel butchering of each other!—See the slaughtered and the slaughtering!—heaps of dead bodies, fields flowing with blood, rivers reddened with human gore. It sometimes happens that a brother falls by the hand of a brother, a kinsman upon his nearest kindred, a friend upon his friend, who, while both are actuated by this fit of insanity, plunges the sword into the heart of one by whom he was never offended, not even by the word of his mouth! So deep is the tragedy, that the bosom shudders even at the feeble description of it, and the hand of humanity drops the pencil while it paints the scene.

In the mean time, I pass over the corn fields trodden down, peaceful cottages and rural mansions burnt to the ground, villages and towns reduced to ashes, the cattle driven from their pasture, innocent women injured, old men dragged into captivity, churches defaced and demolished, everything laid waste, a prey to robbery, plunder, and violence!

Not to mention the consequences which ensue to the people *after* a war, even the most fortunate in its event; the poor, the unoffending common people, robbed of their little hard-earned property; the great laden with taxes: old people bereaved of their children, more cruelly killed by the murder of their offspring, than by the sword; happier if the enemy had deprived them of the sense of their misfortune, and life itself, at the same moment; women far advanced in age, left destitute, and more cruelly put to death, than if they had died at once by the point of the bayonet: widowed mothers, orphan children, houses of mourning; and families, that once knew better days, reduced to extreme penury.

Why need I dwell on the evils which morals sustain by war, when every one knows, that *from war proceeds at once every kind of evil which disturbs and destroys the happiness of human life.—From the Monk Erasmus.*

Poetry.

PLEASANT TEVIOTDALE.

Her light touch wakes the tuneful keys,
She sings some tuneful lay,
That tells of scenes beyond the seas,
In Scotland far away,
By " Ettrick banks," or " Cowden knowes,"
Or " The briery braes o' Cayle,"
Or " Maxwell's bonny houghs and howes,"
In pleasant Teviotdale.

O gentle wind ('tis thus she sings)
That blowest to the west,
O could'st thou waft me on thy wings
To the land that I love best;
How swiftly o'er the ocean foam,
Like a sea bird I would sail,
And lead my loved one blithely home,
To pleasant Teviotdale.

From spicy groves of Malabar,
Thou greetest me, fragrant breeze,
What time the bright eyed evening star
Gleams o'er the orange trees;
Thou comest to whisper of the rose,
And love-sick nightingale;
But my heart is where the hawthorn grows,
In pleasant Teviotdale.

O that I were by Teviot side,
As when in Springwood bowers,
I bounded in my virgin pride,
Like fawn among the flowers;
When the beauty of the budding trees,
And the cuckoo's vernal tale,
Awoke the young heart's ecstacies,
In pleasant Teviotdale.

O that I were where bluebells grow,
On Roxburgh's ferney lea,
Where gowans glent and crow-flowers blow,
Beneath the trysting tree;
Where blooms the birk upon the hill,
And the wild rose down the vale,
And the primrose peeps by ev'ry rill,
In pleasant Teviotdale.

O that I were where Cheviot-fells
Rise o'er the uplands grey,
Where moors are bright with heather-bells,
And broom waves o'er each brae;
Where larks are singing in the sky,
And milkmaids o'er the pail,
And shepherd swains pipe merrily,
In pleasant Teviotdale.

O listen to my lay, kind love,
  Say, when shall we return
Again to rove by Maxwell-grove,
  And the links of Wooden-burn?
Nay, plight thy vow unto me now,
  Or my sinking heart will fail,
When I gaze upon thy pallid brow,
  Far, far, from Teviotdale!

O haste aboard! the favouring wind
  Blows briskly from the shore,
Leave India's dear-bought dross behind,
  To such as prize it more;
Ah! what can India's lacs of gold
  To withered hearts avail?
Then haste thee, love, ere hope wax cold,
  And hie to Teviotdale!

THOMAS PRINGLE.

Miscellanea.

THE GREAT TELESCOPE OF THE EARL OF ROSSE.

SINCE our last number we had an opportunity of inspecting the magnificent instrument which has excited the attention of the professors and lovers of science throughout the entire world; conferring distinction and honour on the distinguished nobleman, and on the country which gave him birth. It is expected that the whole will be sufficiently finished, and their parts in their proper places for an observation in a few weeks. The speculum is six feet in diameter, and thus exceeds, by two feet, Dr. Herschel's great but imperfect telescope. Its weight is three tons, whilst that of the latter was only 2118 pounds. At present the speculum is being polished round the sides, and for this purpose it is made to revolve in a frame containing sand and emery. But the tube which is now being prepared, conveys a greater idea of magnitude than even the speculum itself. It is fifty-two feet long, and about seven feet in diameter, and is almost finished. The whole of this vast instrument is the production of the Earl of Rosse's workshops. The speculum is about five inches in thickness, and is composed of copper 126 2-5, and tin 58 9-10. In order to avoid the fate of many specula, which crack in the cooling, the utmost care was taken that the decrease in the temperature of this massive specimen should be gradual, and for this purpose, on being poured from three melting pots into one, it was immediately transferred into a second furnace, which was instantly closed up by the mason, so as to secure a very gradual decrease in temperature. It remained sixteen weeks in this oven, but it was probably not more than one-half that time in growing cold. There are two massive and lofty walls now being erected, between which the instrument is to be placed, having a range entirely across from side to side of the visible horizon, by elevation and depression, so that every visible star will at some period or other arrive at the field of view. In the lawn is a very perfect telescope of three feet speculum, and twenty-seven feet focal length of the tube, which performs remarkably well. Seen through this the measured crater, or cup, of one of the volcanic mountains in the moon appeared to be about sixty miles across. The first telescope of this diameter made by the Earl of Rosse, had a speculum composed of several pieces soldered on a metallic compound, having the same expansive power as the speculum metal, in order to prevent any fracture of this most brittle metal, which is more readily shivered than glass. That which is now in use is made in one piece, and is perhaps the finest instrument in the world.

Sir James South's recent letter has so well explained the history of the great six-feet speculum, that little more remains to be said, but Professor Robinson has given a very interesting account of the polishing of the Earl of Rosse's specula. "Lord Oxmantown has in many respects deviated from the usual process. His polisher of the mirror's diameter, intersected by transverse and circular grooves, into portions not exceeding half an inch of surface, is coated, first, with a thin layer of common optical pitch, and then with a much harder compound. It is worked *on* the mirror, and counterpoised, so that little of its weight bears; but the want of pressure is compensated by a long and rapid stroke. The mirror revolves slowly in a cistern of water, maintained at a uniform temperature, to prevent the extrication of heat by friction. The polisher moves slowly in the same direction, while it is also impelled with two rectangular movements. The machine is driven by steam, and requires no superintendance, except to supply occasionally a little water to the polisher, and to watch when the polish is complete. By an induction from experiments on mirrors from six to thirty-six inches aperture, it was found, that if the magnitudes of the transverse movements be 1-3 and 9-100 of the aperture, and their times be to its period of rotation as 1 and 1.8 to 37, the figure will be parabolic; but to combine with this the highest degree of lustre, it is found necessary to apply, towards the close, a solution of soap in liquid ammonia, which seems to exert a specific action. The certainty of the process is such, that the solid mirror of thirty-six inches aperture, after being scratched all over its surface with coarse putty, was in the Professor's presence, perfectly polished in six hours, and was placed in its tube for examination, without any previous trial as to quality.

If the metallic compounds vary from the proportions which are used in the large specula, the same brilliancy may be obtained, but the surface becomes rapidly dimmed by oxydation or natural union with the oxygen of the atmosphere, and thus becomes comparatively useless. A three feet speculum made in parts composed of the proper proportions, and afterwards put together, has been exposed for some years without being oxydated. Sir William Herschel yielded to the difficulty of making his large four feet speculum of perfect proportions of the metals, and diverged considerably from the rule, which rendered his labours comparatively useless. Although this alteration rendered the casting of his metal much easier in every way, yet of three attempts to produce a perfect speculum, two entirely failed. So difficult is it to succeed in this operation, that no English optician wishes to engage in preparing one of even nine inches in diameter. However, our distinguished countryman, Thomas Grubb, at present engineer to the Bank of Ireland, is able to complete one of fifteen inches in the most perfect manner. Thus, distant as we are from the great central fields of science, Ireland has assumed the first rank in astronomical mechanics. It is supposed that when the great telescope shall have been finished it will be possible to examine and clearly to perceive a space occupying a portion of the moon's surface, not larger than a good sized house on our earth. Although the surfaces of the specula are so capable of resisting oxydation, yet they are preserved from moisture by connecting flat boxes of quick-lime, which are found effectually to imbibe any moisture or vapour that might otherwise interfere with the brilliancy of the surface. This lime is frequently changed. In a handsome and commodious observatory is an equatorial instrument of great perfection and power, entirely made in the workshop of the Earl of Rosse, and which, as far as we could learn, is the most perfect in Europe. We are informed that Sir James South laid out £5000 on a similar instrument, which has not been found to answer from the imperfection of the mechanical part. The adjustment of the various portions of such an instrument, so that all shall harmonise and give correct observations, is one of the highest attainments of human skill. As we *know* that those unacquainted with astronomical instruments are not aware of the mode of using a telescope containing *speculums,* or as they are generally called, according to the Latin plural, *specula,* we shall just observe, that the large speculum of polished metal is placed on the lower end of the tube, where the eye is placed in a common glass, and the image being reflected up the tube again, as from a looking glass, is then received on a small speculum or mirror near the top of the tube. To get a sight of this the observer looks through an opening in the tube, just opposite to the small mirror. The ascent to this opening is performed by means of a ladder.

Before we leave this subject we wish to do justice to our feelings by saying a few words respecting the town of Birr, or Parsonstown, as it is now frequently called. Our impression of the condition of this town was not founded on any given data, but we had an idea that it was extremely poor, with few good houses and many very wretched ones. We were agreeably surprised to find what appeared to us to be the best built and handsomest *inland* town in Ireland. The new workhouse adds considerably to the appearance of the place. The houses of worship, particularly the Roman Catholic Chapel, are of the first class, and many of the gentry, to whom we had the good fortune to be introduced, are possessed of most cultivated minds, and have made considerable progress in scientific knowledge. A gentleman connected with the law, in whose workshop we were favoured to spend some time, has made a good transit instrument, and an excellent reflecting telescope, and he also possesses a very good collection of Irish antiquities. At the end of a handsome street is the grand entrance to the Earl's demesne, which possesses a combination of rural beauties. In the recesses of his woods, near the castle, there is a "meeting of the waters" of the rivers Brusna and Birr, which, though not so celebrated as Moore's Avoca waters, yet possesses every natural accompaniment. Across these waters, just opposite to the baronial castle, is an iron bridge on a small scale, somewhat on the model of the Menai Bridge, *every part of which was manufactured with the noble Earl's own hands.* A tunnel has been lately constructed *under the river* to convey a portion of water to a noble lake just constructed at the foot of the castle grounds, *solely to employ* some hundreds of men belonging to the town, who have thus been kept out of the workhouse or from starvation for *several months*, during the depressed state of the times. If our memory does not deceive us, we recollect a celebrated political character designating the Earl of Rosse as a person *only fit to make wooden dishes for milk maids*. It is to be hoped that on the next allusion there may be some little addition allowed to his qualifications. We would advise all persons who wish to see the advantage of a resident and kind Irish landlord, to visit the town of Birr, and walk in the demesne, which is open every day to the public, and if they do not leave the town in good temper, they must be very difficult to be pleased. A portion of the castle has been modernised, but some of the most ancient part is carefully preserved, and in it are several cannon shot holes, made by the artillery of Sarsfield, King James's general, as he marched by the castle, which, however, he thought it *better to leave* as he found it.

MANUFACTURE OF ROSE WATER AND ATTAR GUL IN INDIA.*

The most celebrated place in India for the production of Rose Water and its *Attar* is Ghuzeepore, situated on the Ganges, and the method of obtaining these esteemed perfumes is practised by the natives as follows. From the high price of *attar* in Europe we would be led to infer that it forms a very profitable source of employment to those engaged specially in this branch of eastern industry.

"The rose trees come into flower at the beginning of March, and continue so through April. In the morning early the flowers are plucked by numbers of men, women, and children, and are conveyed in large bags to the several contracting parties for distillation, the cultivators themselves being very rarely manufacturers.

"The native apparatus for distilling the rose water is of the simplest construction; it consists of a large copper or iron boiler well tinned, capable of holding from eight to twelve gallons, having a large body with a narrow neck, and a mouth about eight inches in diameter. On the top of this is fixed the head of the still, which is nothing more than an old *de kchee* or cooking vessel, with a hole in the centre to receive the tube or is covered the whole length with a strong worm. This tube is composed of two pieces of bamboo fastened at an acute angle, and it binding of corded string, over which is a luting of earth to prevent the vapour from escaping. The small end, about two feet long, is fixed into the hole in the centre of the head, where it is well luted with flour and water. The lower arm, or end of the tube, is carried down into a long necked vessel, called a *bhudka*. This is placed in a hander of water, which as it gets hot is changed. The head of the still is luted on to the body, as also is the tube into the bhudka; the boiler is let into an earthern furnace, and the whole is ready for operation.

"There is such a variety of rose water manufactured in the bazaar, and so much that bears that name, which is nothing more than a mixture of sandal oil, that it is impossible to lay down the plan which is adopted. The best rose water, however, in the bazaar may be computed as bearing the proportion of one thousand roses to a seer of water, this may perhaps be considered as the best procurable.

"The boiler of the still will hold from eight to twelve, or sixteen thousand roses. On eight thousand roses from ten to eleven seers of water will be placed in a carboy of glass, and is exposed to the sun for several days to become *pucka* (ripe); it is then stopped with cotton, and has a covering of moist clay over it, this becoming hard, eventually prevents the scent from escaping.

"To procure the *attar* the roses are put into the still, and the water passes over gradually, as in the rose water process. After the whole has come over, the rose water is placed in a large metal basin, which is covered with wetted muslin, tied over to prevent insects or dust getting into it. This vessel is let into the ground about two feet, which has been previously wetted with water, and is allowed to remain quiet during the whole of the night. The *attar* is always made at the beginning of the season, when the nights are cool. In the morning early the little film of *attar*, which is found upon the surface of the rose water during the night, is removed by means of a feather, and it is then carefully placed in a small phial, and day after day, as the collection is made, it is placed for a short time in the sun, and after a sufficient quantity has been procured it is poured off clear, and of the colour of amber, into small phials.

"Pure *attar*, when it has been removed only three or four days, has a pale greenish hue; by keeping it looses this, and in a few week's time it becomes a pale yellow. The *attar* purchased at the bazaar is generally adulterated with sandal or sweet oil; not even the richest native will give the price at which the purest *attar* alone can be obtained, and the purest *attar* that is made is sold only to Europeans."—*From a Correspondent.*

Scene in a German Gaming House.—We were introduced to a scene of horror, one feature of which I had never witnessed before, either at home or abroad, and one feature of which I desire not to witness again. But I am glad that I have seen it once, where and where alone it is to be seen in all its Satanic reality, more than in any other part of Europe perhaps. It was a suite of gambling rooms, with roulette and rouge-et-noir tables, where balls were rolling round, and heaps of untold gold were glittering, and the lips, not only of men but of women, quivering, some in the intenseness of their anxiety, and others in the agony of despair. Here was selfishness, and avarice, and villany, all personified in a thousand fiends and faces. Here desperate adventurers were staking their last ducat, with just a perceptible agitation of the muscles, indicative of the hateful passions which were boiling within. In a den over a table sat, "in shape a beast," Beelzebub himself, with a heap of money before him. Around him were gamesters of all ages and both sexes; money was changing hands every half minute. We were walking along silently, when a person who had come up the Rhine with us, pressed himself through the crowd with shame and confusion of face. One word and a point with his forefinger to the gaming table, explained the cause. There stood his fellow-traveller at one of the tables, cool and calculating. A momentary flush had just crossed his features, and twelve sovereigns were in the act of being drawn from under his hand to the general treasure. In another moment, fifteen were put down by him in different corners of the oilcloth. As if to prevent him from going over the fall of the Rhine, all of us made a simultaneous rush to the place where he stood, firm from toe to top, and while he was in the act of drawing in his prize, we literally lifted him up, and took him from the table. A word or two of kindly remonstrance brought him to his recollection and to a sense of the danger he was in of loosing every farthing he had. We all came away from the whole iniquity. The Englishman afterwards told me that he had been a gainer to the amount of seventy-five sovereigns. "Aye," said I, "but remember the wages of sin is death."—*Eight Weeks in Germany.*

Bude Light.—This light is so called from Bude in Cornwall, the residence of the inventor. It costs only half as much as the best argand gas-light, and gives double the heat. It also ventilates a crowded chamber by the same tube, by which the burned gas passes off. It may be now seen to great perfection in the Upper Castle-yard. Its use is becoming very general in London.

A new kind of Gas.—The *Censeur* of Lyons states, that at one of the late sittings of the municipal council, a trial was made of a new portable gas, to which its inventor has given the name of "hydroluminous." The apparatus (says this Journal) is very simple, and applicable to the smallest candlesticks, as well as to the largest and most splendid candelabra. The light it gives is very fine, and it is so portable, that it can be carried about with the common hand candlestick. Nothing is said of the comparative cost of the new light.

Electric Telegraph.—The velocity of Wheatstone's messenger has reached a maximum which can safely be said of but few human things, and we ought to be satisfied, as we know that the speed is about 120,000 miles per second; that, therefore, a message could go to Bristol or Birmingham in 1-140th of a second, or round the globe, if wires could be laid for its travelling upon, in one-sixth of a second. The messages upon the Blackwall railway, upon part of the Great Western railway, and some other railways, are carried at this extraordinary rate; the bells of the House of Commons are rung by it, and its uses are extending.

Heroes of the American Revolution.—There are in the United States just one hundred soldiers of the Revolution on the pension list over one hundred years of age. The oldest man on the list is Michael Hale, of Union County, Pennsylvania, who is in his 115th year.—*New York Paper.*

True politeness not incompatible with religious principles.—The celebrated Dr. Adam Clarke in describing the history of his family, has the following notice of one of his ancestors:—"My great-great-grandfather, William Clarke, was an estated gentleman of Grange, in the county of Antrim, and was appointed in 1690 to receive the Prince of Orange, William III. when he came to Carrickfergus. He had received the principles of George Fox, and, as he could not uncover his head to any man, before he came near to the prince, he took off his hat and laid it on a stone by the wayside, and walked forward. When he met the prince he accosted him thus,

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* Otto of Roses.

'William, thou art welcome to this kingdom.' 'I thank you, sir,' replied the prince; and the interview was so satisfactory to the prince that he said, 'You are, sir, the best bred gentleman I have ever met.'"

The objection of the Society of Friends to uncover the head as a token of respect, is founded on the Scripture command that a man preaching or prophesying shall uncover his head as a token of ADORATION to the Almighty. The Society considers that a similar act should not be performed before a human being; as this belief is not founded upon any disrespect to their superiors or equals, public opinion and right feeling has long since conceded this point in their favour. —EDITOR.

"THE ANIMALS' FRIEND SOCIETY," has received intelligence that his majesty, the king of Prussia, has promptly acquiesced in its wishes, by having established a law in Prussia, to punish persons guilty of cruelty to animals. The Society, on his majesty's late visit here, presented to him some of its reports, &c., and pressed the subject on his attention, in order that a law might be established for the protection of animals, when Mr. L. Gompertz, the honorary secretary, received the following courteous reply from Chevalier Bunsens:—"I have his Majesty's commands to thank you for the presentation of the reports of the 'Animals' Friend Society,' and to express his Majesty's gratification, at the successful efforts made by the Society, for the attainment of so desirable an object, to which his Majesty's own attention has been long directed." Shortly after which, the law was, to his great credit, established.—*Morning Herald.*

IMPROVEMENT IN CHIMNEYS.—M. Eugene De Varroc, of Bryanstone-street, Portman-square, has obtained a patent for "apparatus to be applied to chimneys to prevent their taking fire, and for rendering sweeping chimneys unnecessary." This invention relates to the application of reticulated metal surfaces, at the commencement, or near the entrance of the chimney, in order to prevent the passing of the flame, and also to intercept the soot. The apparatus consists of two cylinders of wire-cloth, one within the other, but so constructed that the surfaces of the two cylinders touch, or are in contact with each other. The inventor prefers to make the cylinders of wire-cloth having sixty-four holes to the square inch, or closely perforated metal plates may be employed, but such will not be found as useful as wire-cloth. The cylinder, which is mounted upon an axis, is fixed in the chimney, as near the fire as convenient, the flue or chimney being so constructed as to prevent any passage for the smoke but through the double-wire cylinder, the wires forming the reticulate, or open work, of one cylinder, being made to cross those of the other cylinder. By this arrangement the flames and soot will be prevented from passing through the cylinder; but there will be sufficient draught through the cylinder for the fire, and the chimney beyond the apparatus will not be coated with soot, the same being deposited on or about the apparatus, which will require to be brushed off every morning, and, if desired, the cylinder can be turned partially round, so as to present another part of its periphery. A modification of this apparatus, composed of a number of perforated plates, and arranged in a rectangular form, is shown, as being applied to the chimney of a steam-engine boiler; in which case there are brushes constructed for clearing the same occasionally from soot.

MURDERERS.—The ancient Greeks had no public officer charged by the state to look after murderers. The relations of the deceased alone hád the right to pursue revenge. Homer shows it clearly (Iliad. ix. lin. 628.) To the testimony of this great poet may be added that of Pausanias, who speaks in many places of this ancient usage, an usage that appears to have always subsisted in Greece. In the Mosaic law the avenger of blood (a near kinsman) was permitted to revenge the death of his relation, by killing the slayer, if he found him out of the cities of refuge, that is, out of the Sanctuary into which he had fled.

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EIGHTH MONTH (AUGUST), 1843.

THE

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Reviews.

The Wives of England, their Relative Duties, Domestic Influence, and Social Obligations. By Mrs. Ellis, the Author of "the Women of England." Dedicated by permission to the Queen. London: Fisher, Son, & Co. Newgate-street.

The just celebrity which the distinguished author acquired by her former publications, addressed to the women and the daughters of England, procured for her a passport to royal patronage, and in the perusal of the present volume the illustrious personage to whom it is dedicated *by permission*, must feel satisfied that the sunshine of her kindness has lighted on so worthy an object. We know of no work of the same nature to be compared to this most instructive book, whether we regard the excellence and truth of the descriptions, the elegance of the diction, and the application of Christian principle to the ever varying circumstances of the married condition. We do not hesitate to say that the general circulation of this book would be a *national* benefit. It would make more contented and happy husbands and wives, except such as are insensible to reason, and the pleasures of domestic comfort. It should be in the hands of every class of the community, whether married or single; all must be improved by its advice. In the light reflected from its pages *every married* person will perceive, as in a mirror, his own picture faithfully delineated, and this so feelingly and yet delicately described, that even those who may not be open to reproof from a stranger, will be benefited and instructed by a perusal.

There is no doubt but that too little time is spent in teaching young females in the middle and upper classes how, on the score of economy, they should know the nature and extent of household expenses, so that when they are so situated as to be heads of establishments of their own, they may understand how to manage such an income, as the affluence or industry of their husbands may place at their disposal. Too much of their juvenile time has been spent in acquiring personal accomplishments, and consequently, they enter upon the great sphere of domestic life with few of those ideas which must then be forced upon them by a serious necessity. Our author thus alludes to this subject:—

"Oh! what a happy day would that be for Britain, whose morning should smile upon the making of a law for allowing no woman to marry until she had become an economist, thoroughly acquainted with the necessary expenses of a respectable mode of living, and able to calculate the requirements of comfort, in connection with all the probable contingencies of actual life. If such a law should be so cruel as to suspend for a year or more every approach to the hymeneal altar, it would at least be equally effectual in averting that bitter repentance with which so many look back to the hurried and thoughtless manner in which they rushed blindfold upon an untried fate, and only opened their eyes to behold their madness and folly, when it was too late to avert the fatal consequences."

How much misery and disappointment in after life would have been spared had the minds of young persons been properly instructed by careful parents, as to the mode of commencing life, after having entered into the marriage state. We shall permit our author to draw this picture in her own inimitable style.

"Let us then at least talk common sense; and in doing this, I would advise the newly married woman to look at things in general as they really are, not as they might be. She will then see, that nothing is more difficult to human nature, than to come down even one step from any height it has attained, whether imaginary or real. If, therefore, the appearance of a young couple make on their first outset in life be ever so little beyond their means, so far from their being willing to reduce their appearance or style of living to a lower scale, they will ever afterwards be perplexed by devices, and harassed by endeavours to maintain in all respects the appearance they have so imprudently assumed. This perpetual strictness and inadequacy of means to effect the end desired, is of itself sufficient to poison the fountain of domestic concord at its source. It is bad enough to have innumerable wants created in our own minds, which our utmost efforts are unable to satisfy, but it is worse, as many thousands can attest, in addition to this, for the husband and the wife to be perpetually disputing at their own fire-side, about what expenses can be done without, and what cannot. Yet all these consequences follow, and worse, and more calamitous than tongue or pen can describe, from the simple fact of having begun a new establishment on too expensive a scale. It may seem like a fanciful indulgence of morbid feeling, but I own that my attention has often been arrested in the streets of London by a spectacle which few ladies would stop to contemplate—a pawnbroker's shop. And I have imagined that I could there trace the gradual fall from these high beginnings, in the new hearth rug scarcely worn, the gaudy carpet with its roses scarcely soiled, the flowery tea tray, and worst of all, the bride's white veil. What a breaking up, I have thought, must there have been of some little establishment before the dust of a single twelvemonth had fallen on its hearth! These articles, perhaps disposed of to defray the expenses of illness, or to satisfy the very creditors of whom they were obtained on trust."

In the admirable descriptions and definitions of human character with which the work abounds, the male sex are not forgotten, and much that may inform and improve them also is to be found, as parenthesis, in describing the position of the single and the married women. In the chapter on the characteristics of men we find the following:—

"Were all men excellent, without inconsistencies, and without defects, there would be no need for words of caution or advice addressed to the weaker sex, but especially to wives, for each would have perpetually before her a perfect model of true excellence, from which she would be ashamed to differ, and by which she would be taught at once to admire and imitate whatever is most worthy of esteem. With gratitude we ought to acknowledge our belief, that morally and spiritually there is perfect equality between men and women; yet, in the character of a noble, enlightened, and truly good man, there is a power and a sublimity, so nearly approaching what we believe to be the nature and capacity of angels, that as no feeling can exceed, so no language can describe, the degree of admiration and respect which the contemplation of such a character must excite. To be permitted to dwell within the influence of such a man, must be a privilege of the highest order; to listen to his conversation, must be a perpetual feast; but to be admitted into his heart—to share his counsels, and to be the chosen companion of his joys and sorrows! it is difficult to say whether humility or gratitude should preponderate in the feelings of the woman thus distinguished and thus blest. If all men were of this description, these pages might be given to the winds. We must suppose, however, for the sake of meeting every case, and especially the most difficult, there are men occasionally found who are not, strictly speaking, noble nor highly enlightened, nor altogether good. That such men are as much disposed as their superiors to enter into the married state, is also a fact of public notoriety, and it is to the women who venture upon uniting themselves to such men for life, that I would be understood chiefly to address myself. In order to render the subject more clear, I will in the first place draw an imaginary line betwixt reasonable and unreasonable men.

"A reasonable man is one who will give a candid hearing to arguments against his own preconceived opinions, and who, when he believes himself to have good cause for acting or thinking as he does, is yet willing to be shown a better cause for acting or thinking differently. The mind of a reasonable man is, therefore, open to conviction, impartial and comprehensive; and all these qualities, from the very nature of his constitution, he possesses in a higher degree than they can be possessed by woman. An unreasonable man is one who will think and act in a particular manner, simply because *he will*. If he knows any better reason why he so thinks and acts, he deems it unnecessary to disclose it, because to him this is all-sufficient; and as it is one which no argument can refute, and no opposition can overcome, the woman who has to accommodate her habits to his, had need to commence the preparation for her married life by a study of patience from the book of Job."

To extract all that is valuable in this volume we should be obliged to copy out the whole.

Geology and Revelation in perfect harmony. An Essay. By John Watson. London: James Dinnes.

We have read this treatise with much pleasure, first, because we think that revealed religion has received some service, and secondly, because the arguments therein contained are calculated to answer some objections which have occasioned alarm in religious minds. We cannot admit for a single moment that the facts of nature are contrary to the revelations of the New Testament. The evidence of prophecy fixes the truth of the latter on an immovable base; and it is truly astonishing to see with what confidence, and we had almost said *audacity*, many both well instructed and superficial geologists have declared that the Mosaic account of the creation must be untrue, because they thought that the facts recorded of the creation did not agree with their theories. On the other hand the worst argument to bring back a doubting geologist to an orthodox opinion on revelation, is such as that lately used by Dr. Pye Smith, when he declared that a work written to prove the *harmony* of Scripture and geology is "the most infamous book that has appeared since Paine's Age of Reason." So little inclined are some parties to admit the facts of geology, lest they should throw doubts on the truth of Scripture, that we have heard it gravely asserted, that the fossil animals and plants were originally created as they are now found! To avoid such absurdity we are glad when we see a book written with good temper and disposition, calculated to remove the doubts and fears of the honest and sincere Christian, and perhaps to answer successfully the insidious arguments of the puffed up geologist.

There is but one flood of forty days' continuance recorded to have occurred over the face of the earth. This would not have destroyed the fishes of the waters as they were destroyed; it was their natural element. We have in our own cabinet perfectly preserved fishes in the copper slate of Thuringia, and from the hill of Mante Balca in Italy. We have beautifully formed and delicately finished shells from the solid mass of our own compact limestone, all now extinct in the sea—these, with the delicate and fragile forms of all the different formations of shells which we possess, indubitably declare that great changes have occurred on the surface of our globe, and that entire creations of plants and animals successively existed, and were swept away by the fiat of an almighty ruler, leaving but their wreck behind. Hear what the accomplished Agassiz has just declared upon a subject which he has studied more, and on which he has written better than any other man.

"There is something peculiarly fascinating to the human mind in inquiring into the present history of the human race. What power has placed man upon the earth, and called him to be its lord and master? Was he the first product of that creative energy which called forth the thousands of living beings upon our planet, or was he preceded by other creations? And what was the conformation of this earth before the energy of his mind, and the labour of his hands, had impressed upon it the indelible stamp of his existence? It were easy to multiply these questions, but difficult to give a just solution of them; for the obscurity that conceals the early and remote yields but with difficulty to the torch of inquiry, and when we even succeed in penetrating a step or two, in opening a slight path to the succeeding inquirer, the environs of this path become enveloped in darkness still more dense. Where it is man himself that still speaks to his fellow-man, where he himself relates to him the history of his fortunes, we may no doubt more readily speak of understanding, of a right comprehension of recurrences; in a word, of knowledge of the past. But when the sources of history dry up in the infancy of nations, or only bubble up in the faint glimmer of enchantment and fable, the answer to our curious inquiries becomes more difficult, and the supposed resolution more doubtful. But who can resolve the enigmas which lie buried in the dark night of Time, antecedent to the creation of our species? Who is in possession of the spell that is to raise such hidden treasure?

"'Where men are silent,' says an ancient proverb, 'stones must speak;' and daily experience adds new confirmation to the saying. And they speak to us, the stones and the rocks, the mountains and the valleys; but each has its own language, and each its own modes of speech; and like the tribes of America, none understand the language of the other, nor is it given to every human intellect to acquire the language of all, and in their peculiar expressions to find the answer to his queries. Is it to be wondered at that there is still so much interrogatory, and so little answer that is really understood?

"It will easily be perceived that I refer to Geology; and in fact it is this science, and it alone, which promises to give us, some time or other, a satisfactory answer to the queries which we stated at the outset. It is the only positive science which endeavours laboriously to wring from the past what it has long shrouded in a veil of nocturnal obscurity; and what it does not find here above, it beats, hammer in hand, out of the obstinate rock, by the dim light of the miner's lamp. It takes the torch from the hand of the historical antiquary to penetrate still deeper into the obscurity which is unenlightened by mythology or tradition. For it has taken the history of the earth for its problem; it will inquire what was there when man was not yet there; what lived before creation had crowned its work by the formation of that being who alone can render himself intelligible to his race, by language and writing, across remote space and time."

After describing the changes which took place in the early periods of the world's history, and the extinction of various races of animals, plants, and fishes, which are clearly proved by their petrified remains, he thus continues:—

"This first creation vanished away; its animal remains were entombed in the stony strata that were deposited at the bottom of the waters; its forests were sunk and covered in the abysses; separate islands rose above the surface of the waters; previously existing ones became larger; the dry land encreased in extent. And beside the ganoideans of the Mansfeld slate, and the other curious fishes of the variegated sandstone, and the muschel kalk, whose jaw bones some have even ascribed to mammalia, besides these obscure organisms there lived sea and land reptiles; the nothosaurus and dracosauros, two large sea lizards, allied to the plesiosaurus, hunted for their prey in the high seas, whilst other salamander-like species, as the labyrinthodon, watched for their food upon the shore. As yet the other family types of the amphibia are wanting; it is with the Jura formation that these first gradually come into life. The trilobites have already vanished, and are succeeded by beautiful extinct families of long tailed crabs; the stalked encrinites, these animal water lilies of the ancient ocean, are developed in their loveliest bloom. Exquisitaceæ, coniferæ, and cycadeæ, together with a few ferns, covered the soil. The interior of the earth raged anew. As parallel dams the mountain ranges of the Black Forest and the Vosges arose, together with those of the Thuringian and Bohemian forests, to bound the shores of the Jurassic sea, in which a new life commenced. The mighty ichthyosauri (fish lizard), whose organization, as the name implies, comes so near to that of a fish, the long-necked plesiosauri (lizard-like), with their short paddles; the pterodactyles, to which the majority of naturalists still assign an improper place, regarding them as aerial animals, as flying reptiles, whilst their whole organisation shows them to have been aquatic animals; these animals, termed by Cuvier the most bizarre of the whole early creation, inhabited the waters of the extensive oceans. In conformity with their whole constitution, these, in many instances, gigantic devourers, had to seek their food amongst the fishes of the sea, and we can still recognise in the coprolites, their petrified excrement, the scales and bones of the fishes and reptiles which served as their nourishment, and from the mass which fills up their ribs, infer the extent of their stomach and their appetite. In contest with these, innumerable hosts of sharks and other animals, approaching nearer to the present race of fishes, but still belonging to the classes of ganoideans and placoidians, ranged through the waters. Numberless masses of naked cuttle-fish, whose back bones form, as belemnites, extensive stony strata, and give evidence of the immense mass which existed of those creatures, meet us here for the first time; they appear anxious to supplant the family of brachiopoda (arm-footed), with chambered shells, which peopled the ancient oceans; in fact, the more anomalous forms, as the orthoceratites, have already vanished, and only the beautiful spirally coiled ammonites and nautili retain their places in the ocean, clad in their coat of mail, while all around them are naked.

Apes of considerable size peopled the forests of Europe, as at present those of warmer zones; nimble deer and elks scoured through the thickets of the plain; huge rhinoceroses and hippopotami wallowed in the marshy lakes, or on the banks of rivers; the uncultivated meadows were throdden down by herds of wild elephants; babiroussas and swine of different species grubbed through the mire of waters; the huge dinotherium, with its downward turned tusks, scraped up the banks of rivers, to provide itself the masses of vegetable nourishment which its gigantic body daily required; timid hares squatted in their forms to avoid the foxes and martins, which occupied the same ground that they did. But if the peaceful race of the graminivora was developed in the gigantic forms of pachydermata (thick skinned), and ruminants, their enemies were neither less numerous, nor less on a par with them in strength and force. The caverns of the mountains are filled with bones, which their inhabitants dragged in and gnawed there; ravenous hyænas, clumsy bears, lions, tigers, dogs, and cats of every species, were the rapacious exterminators of the elephants and rhinoceroses, as of the defenceless deer and antelopes, and it was not only in the warmer situations which their congeners now inhabit; no, under our own latitude, on to the steppes of Siberia did all these creatures of a milder climate exist. And where formerly elephants found their nutriment, and hippopotami sufficient pasturage, there are now extensive plains which scarcely support the nimble rein deer, where the surface thaws but a few weeks in the year, and scarcely affords existence to the Iceland moss! The earth was warmer where it has now become cold, and its heat was more equally distributed. And New Holland, the land of wonders, with its bizarre forms of men, mammalia, and plants, the native country of the ornithorynchus, of the kangaroo, of the echidna, of the most various marsupialia, preserves this seal of the wonderful, even in this earlier epoch; for the zeal of inquiry has already discovered bones of gigantic fossil kangaroos; and progressing civilization, whilst it seeks to turn to account the productions of the soil, will likewise send us from thence valuable contributions to science.

Such creatures were existing when an unexpected catastrophe put a period to their existence. A climate such as the poles of our earth can scarcely produce—a cold in which every thing that had life was benumbed—suddenly appeared. Could the animals which were created for a moderate tropical climate survive such a thorough change? Certainly not; for nowhere did the earth offer them protection against the omnipotence of the cold. Whithersoever they fled, into the dens of the mountains, which formerly had served to many of them as a lurking place; into the thickets of the forests; everywhere they succumbed to the might of the annihilating element."

With such undeniable evidence as this, we must admit that greater changes have taken place on the surface of our world than could possibly be produced by a single flood. Such being the fact, we have dwelt longer on this subject than we should otherwise have done, because we think that the friends of revelation have done damage to their cause, and have put the apparent truth of the Mosaic account in a state of jeopardy by the position which they have assumed. They have assumed that if the Bible be true the facts of geology must be false. Nothing can be more absurd than this reasoning. They are both true and do not contradict one another. We revere the evidence of our venerable religion too much to commit their safeguard to a geological argument. The Mosaic flood overwhelmed the multitudinous families of animated existence —but the flood of geological infidelity would sweep away the landmarks of the divine creation, and leave no spiritual Ararat on which the Ark of Faith might rest itself amongst the billows of its fearful inundation.

(To be continued.)

A Journal of the Disasters in Affghanistan in 1841-42. By Lady Sale. London: John Murray, 1843.

[Concluded.]

As the tragedy of Affghanistan drew to its close, the incapacity of the king on the one side, and of the managers of the British army on the other, became apparent. When this knowledge became valuable it was too late to retrieve the state of their affairs.

"In the Bala Hissar Lieutenant Melville, having recovered from his wound sufficiently to do his duty, was sent down to take charge of the Lahore gate of the fort, which was now the only opening into the Bala Hissar, the others having been built up with almost solid masonry. The troops there were isolated in a fort closely besieged, *actually without a single case of amputating or surgical instruments amongst them, and hardly a grain of medicine!* most culpable negligence, as they might easily have been sent from the cantonments, though a little foresight would have suggested their being taken there with the troops, and they might easily have been got ready during the time they were under arms—more than an hour—before they marched. The Sipahees complain bitterly of the severity of the weather, particularly at night, and above sixty men are in hospital at the Bala Hissar already, besides the wounded; they are attacked with pneumoniæ, which carries them off in the course of a couple of days. The king sent strict orders to Melville at the gate, to allow no one to pass either in or out without a pass from either the wuzeer or Conolly, except the surwans in charge of the grazing cattle which go out at eight, A.M. and return at two, protected by a resallah of the king's Sikh regiment; in case of an alarm from without, a flag is ordered to be waved from the ramparts, on which signal all the cattle are immediately to come in. The above-mentioned resallah are without any exception the worst set up, and most disorderly body of troops calling themselves a regiment that can be imagined: their horses are ill-conditioned, their arms and accoutrements nominal, as each man dresses as he pleases, a stick with a bayonet on the top being the sole offensive weapon of many of them; and this is the imperial guard of the monarchs of Affghanistan!

Associated with Melville at the gate was Rajah Jeenial Sing, a man whose father was prince of an extensive territory lying near Cashmere, and who, when Shah Soojah in 1818 was a fugitive and an exile, flying from Runjeet Sing, received him most kindly, gave him all he asked for; refusing every offer or command of Runjeet to surrender him up, he transported him safe to the Company's territories. For this Runjeet deprived him of his Raj, valued at four lacks yearly, and all his property, imprisoning both him and his sons; the latter on their father's death made their escape, and arrived at the court of Shah Soojah, for whose sake they had lost every thing. His gratitude was shown in the regal donation of two rupees, eight arras, daily!! Verily they had their reward, and well may they exclaim—'Put not your trust in princes!"

After the treacherous assassination of our envoy, Sir William M'Naughten, by Akbar Khan at a conference, the army was left to its own resources, and it was finally resolved to retreat towards the British possessions on these ratified terms; fourteen and a half lacks of rupees to be given for safe conduct to Peshawar; all the guns but six to be given up, and six hostages to be left by the army. The rupees were to be paid to the following chiefs, who guaranteed the safety of the troops on the road, but who acted with a treachery almost unparalleled in history: to Mahommed Zeman Shah Khan, three lacks; Amen Oollah Khan, six; Khan Shireen Khan, head of the Kuzzilbashes, two; Mahommed Akbar Khan, one; Osman Khan, two; the Ghilzye chiefs, half a lack. The journal thus describes their departure:—

"Thursday, 6th January, 1842.—We marched from Cabul. The force consisted of about 4500 fighting men, and 12000 followers. The troops left cantonments both by the rear gate and the breach to the right of it, which had been made yesterday, by throwing down part of the rampart to form a bridge over the ditch. All was confusion from before daylight. The day was clear and frosty; the snow nearly a foot deep on the ground; the thermometer considerably below the freezing point.

Scarcely had they left their cantonments than the Affghans, unrestrained by their perfidious chiefs, attacked them, and the improbability of escaping either the sword, the cold, or famine, appeared so certain, that more than one-eighth of the native fighting men deserted and returned to Cabul. Lady Sale has recorded the following anecdote, which appears very remarkable from the sequel:—

"Previous to leaving cantonments, as we must abandon most of our property, Sturt was anxious to save a few of his most valuable books, and to try the experiment of sending them to a friend in the city. Whilst he selected these I found amongst the ones thrown aside Campbell's poems, which opened at Hohenlinden; and strange to say, one verse actually haunted me day and night:—

'Few, few shall part where many meet,
The snow shall be their winding sheet;
And every turf beneath their feet,
Shall be a soldier's sepulchre.'

I am far from being a believer in presentiments, but this verse is never absent from my thoughts. Heaven forbid that our fears should be realised! but we have commenced our retreat so badly, that we may reasonably have our doubts regarding the finale."

Many men were found frozen to death at daylight, and the attacks of the Affghans became more vigorous as they approached the mountain passes. On the 8th Lady Sale was shot through the arm, and her son-in-law, Sturt, had his horse shot under him, and before he could rise from the ground he received a severe wound in the abdomen. The situation of the ladies, unused to such appalling scenes, was dreadful in the extreme:—

"The ladies were mostly travelling in Kajavas, and were mixed up with the baggage and column in the pass; here they were heavily fired upon. Many camels were killed. On one camel were, in one Kajavah, Mrs. Boyd and her youngest son Hugh; and in the other Mrs. Mainwaring and her infant, scarcely three months old, and Mrs. Anderson's eldest child. This camel was shot. Mrs. Boyd got a horse to ride, and her child was put on another behind a man, who being shortly after unfortunately killed, the child was carried off by the Affghans. Mrs. Mainwaring, less fortunate, took her own baby in her arms. Mary Anderson was carried off in the confusion. Meeting with a pony laden with treasure Mrs. M. endeavoured to mount and sit on the boxes, but they upset, and in the hurry poney and treasure were left behind, and the unfortunate lady pursued her way on foot, until after a time an Affghan asked her if she was wounded, and told her to mount behind him. This apparently kind offer she declined, being fearful of treachery; alleging as an excuse that she could not sit behind him on account of the difficulty of holding her child when so mounted. This man shortly after snatched her shawl off her shoulders, and left her to her fate. Mrs. M.'s suffering were very great, and she deserves much credit for having preserved her child through these dreadful scenes. She not only had to walk a considerable distance with the child in her arms through the deep snow, but had also to pick her way over the bodies of the dead, dying, and wounded, both men and cattle, and constantly to cross the streams of water, wet up to the knees, pushed and shoved about by men and animals, the enemy keeping up a sharp fire, and several persons being killed close to her. She, however, got safe to camp with her clothes: and I know from experience that it was many days ere my wet habit became thawed, and can fully appreciate her discomforts."

After Captain Sturt had received his wound which soon terminated fatally, he was held upon a poney by two people, and brought into the camp at Khoord Cabul. Lady Sale thus describes the last hours of her son-in-law :—

"Poor Sturt was laid on the side of a bank with his wife and myself beside him. It began snowing heavily; Johnson and Bygrave got some dummuls (coarse blankets), thrown over us. Dr. Bryce, H. A. came and examined Sturt's wound: he dressed it; but I saw by the expression of his countenance that there was no hope. He afterwards kindly cut the ball out of my wrist, and dressed both my wounds.

"9th. Mrs. Trevor kindly rode a pony and gave up her place in the Kajava to Sturt, who must otherwise have been left on the ground. The rough motion increased his suffering, and accelerated his death; but he was still conscious that his wife and I were with him; and we had the sorrowful satisfaction of giving him Christian burial."

In a narrow pass called Tunghee Tareekee, or the *dark pass*, the rear guard, consisting of the 54th N. I. was cut to pieces by the long knives of the Affghans. The escape of Lieutenant Melville of that regiment was truly wonderful :—

"Lieutenant Melville, on observing the jemadar, who carried the regiment's colour, wounded and dropping his charge, seized it; and after vainly attempting to tear it off the staff, to which it was too firmly attached, made his way on foot (his horse having been killed), with the colour in his hand. This made him a mark for the enemy, and ere he got out of the pass, being nearly, or quite, the last man of the column, or rather rabble, he received a spear wound in his back, which threw him on his face; ere well able to rise, a severe sword cut in the head again laid him prostrate; but he contrived to crawl as far as the fast retreating column; when again the knife of an Affghan wounding him in the neck, and a spear in the chin, he gave up all for lost. He was now surrounded by a dozen Ghilzyes; and no man, save the dead and dying, near him; when the enemy, observing a box of treasure on the opposite side of the pass, left him, for the purpose of rifling the money, either supposing they had already killed him, or intending to return when they had secured the more valuable booty. This pause gave Lieutenant Melville an opportunity of escaping and regaining the column; which, although weak from his wounds, he availed himself of; and by going through the snow in the ravines he contrived to reach the column, where a pony without an owner, or saddle of any description, presenting itself he scrambled on to it, and with the assistance of a mehter (camp follower) gained the centre of the column, where the 44th, and one gun still kept some order. Lieutenant Melville was tied on the gun, and was told by Gen. Elphinstone that he should be sent over to the charge of the Sirdar, Mahommed Akbar Khan, on reaching Tezeen, or at any opportunity of going. On a report of a large body of horse being observed in the rear, the gun was ordered there, and Lieutenant Melville was placed on a bank on the road side. The column passed on, and he was expecting the fate of the other poor fellows who had fallen, when providentially for him, a horse man rode up, who had known him in cantonments, and who strapped him on his horse, and took him over to the party of horseman, consisting of Mahommed Akbar Khan, and his followers, who received him most kindly, and binding up his wounds, gave him a longhee, his regimental cap being cut to pieces. Melville gave to Omer Khan, the horseman who saved his life, seven rupees, being all the property he possessed."

On arriving at the pass of Jugdaluk, a pass two miles long, the remains of the army amounted to one hundred and fifty of the 44th regiment, sixteen dismounted horse artillery men, and two hundred and fifty of the 5th cavalry. On the 13th the small remains were reduced to twenty officers, fifty of the 44th, six artillery men, and four or five Sipahees, having but twenty muskets amongst the whole. A truce was proposed, and whilst this was going on, the Affghans, traitorous to the last, snatched at the fire arms of the men and officers. Lady Sale thus describes the closing scene :—

"This they of course resisted, and drove them off the hill; but the majority of the enemy, who occupied the adjoining hills commanding our position, commenced a galling fire upon us. Several times they attempted to dislodge our men from the hill, and were repulsed; until our ammunition being expended, and our fighting men reduced to about thirty, the enemy made a rush, which in our weak state we were unable to cope with. They bore our men down knife in hand, and slaughtered all the party except Captain Souter and seven or eight men of the 44th and artillery. This officer thinks that this unusual act of forbearance towards him originated in the strange dress he wore; his poshteen (pelisse) having opened during the last struggle, exposed to view the colour he had wrapped round his body, and they probably thought they had secured a valuable prize in some great bahadur (warrior) for whom a large ransom might be obtained. Eighteen officers, and about fifty men were killed at the final struggle at Gundamuck. But *one* man, Dr. Brydon, escaped from this great army; and though his escape was owing to his own exertions, yet it literally fulfilled what they were told before leaving Cabul, that "*Akbar would annihilate the whole army, except one man, who should reach Jellalabad to tell the tale.*"

The subsequent enlargement, or rather rescue, of Lady Sale and her companions in misfortune, is particularly described in the second division of the Journal. Her opinion of Mahommed Akbar Khan's humanity is on a very low scale, though personally he was not guilty of any act of cruelty to his English captives. Lady Sale supposes this to have been owing to policy, and describes one or two instances of his ferocious disposition :—

"A favourite, Pesh Khedmut, who had accompanied Akbar Khan to Bokhara, and had been with him in all his changes of fortune, was assisting him to dismount from his horse, when some part of his dress catching upon his fire arms, they went off, and the Sirdar was wounded through the arm and lungs. One account states that the unfortunate man was instantly cut in pieces; another, that he was burnt alive; and that to the last he took his oath on the Koran that the act was an accident. There is nothing too brutal or savage for Akbar to accomplish: he is known to have had a man flayed (*skinned*) alive in his presence, commencing at the feet and continuing upwards until the sufferer was relieved by death!"

The History of China, Pictorial and Descriptive, from the earliest period to the present time. Parts 2 and 3. By Miss Corner. London: Dean and Co.

The present number of this interesting work supports the same character as the former. As the period of history comes nearer to the modern times, additional light is thrown upon the resources and character of the Chinese. The new Tartar sovereign having found that the whole of China was submissive to his dominion, thought it prudent to allow the Chinese subjects to retain their ancient rights, and in order to satisfy his Tartar subjects also, he doubled the number of his state officers, and chose half from each nation. The pigtails, as they are humourously called, which now form a necessary appendage to the natives, were not chosen by themselves, but were an innovation insisted upon by the new government.

"The Chinese, however, were required to submit to one mark of subjection that was far more obnoxious, and spread more general discontent among them, than any change that could have been introduced into the form of government. This was, that they should divest themselves of the thick raven-locks, which they had been accustomed to cherish with peculiar care, and adopt in their stead the frightful Tartar fashion, of wearing a long plaited tail, hanging from the crown of a bald head. The hair is an ornament highly prized by most people; and as nature had been especially bountiful to the Chinese in that particular, they were extremely reluctant to part with it; and it is asserted that many chose to submit their heads to the executioner, rather than to the barber, for that was the cruel alternative, as it was found impossible to enforce the decree by any gentler means than by treating disobedience as rebellion, and punishing the offender accordingly. The tails were thus fully established, and have been worn ever since, to the great satisfaction no doubt of the barbers of China, whose services are in constant requisition among all classes of people, since the poorest mechanic must have his head shaved, and his tail plaited, as well as the most wealthy mandarin."

The Emperor of Russia, Alexius, father of Peter the Great, sent an envoy to the newly-established Tartar sovereign, but the ceremony of making nine prostrations before the Emperor of China, being considered equal to an act of submission, the envoy refused to comply, and this broke off the commercial negotiation. The English embassy failed in its objects on a late occasion from a similar cause. The Dutch followed the Russians in an attempt to open a commercial treaty with no better success :—

"Not long after the failure of the Russian embassy, the Dutch, who were very anxious to open a trade with Canton, and establish a factory there, sent ambassadors to the Emperor with petitions to that effect. They were very courteously received by the Viceroy of Canton, who accepted the presents they carried to him, according to the custom of the East, where a request to a great man is invariably accompanied by a present; nor would any foreign ambassador be admitted to the presence of the Chinese sovereign, unless prepared with some costly gift to lay at his feet. The Viceroy of Canton was a handsome young Tartar of prepossessing manners, who invited the Dutch envoys to dine with him, and entertained them in a very sumptuous style. They were received in the great hall of the palace by his mother, who had just arrived from Tartary, and according to the habits of the Tartar ladies, made no scruple of appearing before strangers of the opposite sex. The dinner was served in the Chinese fashion, on a number of small tables, not covered with cloths, but ornamented with painting and gilding, at each of which two guests were seated. The meats were served in silver dishes, and the wine in golden cups; and during the banquet, a party of actors, splendidly habited in the ancient costume of the country, performed a play at one end of the hall for the amusement of the company. The Dutchmen were not a little surprised at the magnificence displayed by the Tartar governor, and departed highly gratified with the reception they had met with, and from which they augured favourably for their mission; but in this they were mistaken, for when they arrived at Peking, they were scarcely treated with common civility by the authorities there, who provided them with a miserable lodging, and very scanty entertainment, until the time was appointed for their audience. The sovereigns of the east usually hold their levees at break of day, consequently the ambassadors, to their great annoyance, were conducted to the palace over night, and obliged to sit up in their state dresses, that they might be ready at the moment that their attendance was required. Seated on the floor in an outer apartment, which was quite destitute of furniture, they had leisure to contemplate by the light of a few lamps, a motley group of beings in the same uncomfortable situation as themselves, all waiting also for the honour of being admitted to the presence of the emperor. In one corner of the room was a barbarian envoy, from a prince of the southern Tartars; dressed in a long coat of sheepskin, dyed crimson, with large boots, bare arms, and a horse's tail dangling from his cap. Contrasted with this rough-looking personage, was an ambassador of a Mogul Khan, who wore a blue silk dress, so richly embroidered that it looked like beaten gold; and very different from either of these, was the representative of the Grand Lama, who was attired in a yellow robe, with a broad hat, like that worn by a cardinal, and a string of large beads round his neck. There were many other figures, all equally novel to the eyes of the Europeans, who were no less objects of curiosity to the strangers. At length, the welcome dawn appeared, when on a given signal, all started up, and shaking off the weariness that had oppressed them, followed the official persons, whose business it was to conduct them to the hall of audience. This hall is of white marble, the entrance to which is by five flights of steps, the middle flight being reserved exclusively for the emperor, and never profaned by the foot of any other person. Here a scene of extraordinary pomp and splendour exhibited itself to the astonished eyes of the plain and homely Dutchmen. The glittering dresses of the attendants, the gorgeous banners displayed by the soldiers, ranged on each side of the hall, the superb throne, around which were held on high, figures of the sun made of gold, and silver circles representing the moon, with the crowd of officers and mandarins in their state robes, produced a most imposing effect. The emperor had not yet made his appearance, but all the ambassadors were directed to prostrate themselves three times before the empty throne, and at each time of kneeling to bow down their heads to the ground three times, till their foreheads touched the marble flooring. This was the very ceremony the Russian envoy had refused to perform; but as the Hollanders were extremely anxious for the success of their embassy, they did not think it prudent to make any scruple about the matter, and went through the cotau with a good grace. The sound of bells soon announced the approach of Shun-che; all present fell on their knees as he ascended the steps, every eye being bent towards the earth, as if none were worthy to look upon him. He walked up the hall with a stately air, and seated himself on the throne, when the whole assembly rose, and the different envoys were led forward to do him homage, by a repetition of the nine prostrations; but not a single word, nor even the slightest mark of notice, did the haughty Tartar vouchsafe to the disappointed Europeans, who withdrew with no very kindly feelings towards a prince, before whom they had humbled themselves to so little purpose. Both the Tartars and Chinese had, in fact, a great contempt for the Dutch people, in consequence of having learned that there was no emperor or king in Holland; for they did not understand the nature of a republic, but thought that the Dutch must be a very poor and mean nation, that could not afford to maintain a king. However, before the ambassadors quitted Peking, they were officially informed, that they might come to China once in eight years, *to bring presents, but not to trade.*"

The grandfather of the present Emperor, Kienlong, appears to have been a very distinguished personage, though he suffered, like most ambitious sovereigns, in his foreign wars. The Chinese army was entirely destroyed in an expedition against the Burmese.

"The Burmese monarch took immediate steps to repel the invasion, by dividing his forces into two separate bodies; one of which marched direct towards the enemy, while the other, by a circuitous route came behind them, and thus cut off their retreat. A terrible conflict took place, which lasted three days, and was most disastrous to the Chinese, who were hemmed in on all sides, and cut down by thousands, while numbers were made prisoners; so that, of all the vast army that entered the Burmese territories, not one man returned to tell the miserable tale of their defeat, for those who escaped the sword were conducted in fetters to Ava, the Burmese capital, where they were made government slaves, according to the custom of that country. Those who understood any trade, were obliged to practise it; those who did not, were employed as gardeners and field labourers, and compelled to work very hard, without fee or reward, beyond a scanty supply of the coarsest food, just sufficient to keep them from starving."

Sketches of Nature: comprising Views of Zoology, Botany, and Geology, illustrated by Original Poetry. By Jane Lucretia Guinness. London: Hamilton, Adams, and Co.

This is decidedly a work of merit, evincing, as it does, no small portion of varied talent in the writer. It is calculated at once to impart pleasure and very valuable information to the reader. Its nature and bearing may be learned from its title page, and being chiefly designed for youth, will prove a valuable acquisition to the juvenile library. In reference to "the technicalities of science" we quite agree with the sentiments expressed by the writer in her preface, that,—

"The youthful pupil requires no little stimulus to urge his entrance upon a route encumbered by difficulties which need strenuous effort to surmount, ere he can reach the goal to which he aspires. He must be informed that this apparently extraneous system of classification, sub-division, and difficult nomenclature, is the path, necessarily tortuous, which Wisdom has tracked to that elevation, where she has erected the fabric of knowledge, and that he must scale its heights with her, ere he can take a near view of those individual beauties, which, at a distance, but faintly strike the eye. If objections against the difficult and tiresome nomenclature of science can be overcome, a point of considerable importance is gained, and the pupil perceives that the system from which he shrinks, is like the harmony of music and painting, the power that adjusts and gives to objects their due place and proportion, and without which all is irregularity, indistinctness, and confusion. It is presumed, however, that he should not at once be presented with anything of an elaborate scientific scheme in any department of knowledge, but led, as it were, *insensibly* to a familiarity with the implements of science, until he learns at length to use them with the hand of a skilful artisan.

The writer has not aimed at forming a digest of any subject here treated, nor has she intended to offer such minute detail as would yield all the information necessary to be possessed on any individual point; a few descriptive features are all that the naturalist will find, to which are appended such metrical illustrations as the various subjects would admit, or as her ability for composition enabled her to supply."

Of the manner in which the work has been executed, the reader will be enabled to form a tolerably correct estimate from the extracts which follow; the first taken from the Introductory chapter, the other the Stanzas appended to "Order I. Bimana, or two-handed animals, man."

"THE KINGDOMS OF NATURE, AND THEIR PROMINENT DISTINCTIONS.

"To the student of nature, whose eye wanders over the extensive fields of creation, numberless objects present themselves of the highest attraction and the most interesting variety. He beholds the spacious canopy of heaven, with its suns and planets—the ocean, with its finny tribes and shells and coral rocks—the earth, with its mountains and trees, its animals, flowers, and gems; and above all, he beholds the highest earthly intelligence—Man—for whose use and employment these wonders were formed, and whose immortality and high destiny point him out as the most important of all the visible works of creation. Here, then, is the page of nature unrolled before his view—written with the finger of God, and embellished with a thousand delightful pictures, reflective of the glory of the Great Creator. If he is influenced by the spirit of God, there will be such a connection established in his mind between the temple of nature and its divine Architect, that he will derive an inexpressible pleasure from the association thus formed, and will experience a growing expansion of thought as he dwells upon its varied objects, and sees reflected a faint image of the glories of that immortal temple above, which needs no light of the material sun and moon to add to the illumination of the eternal presence of his God and Saviour. Beholding also every effort of human intellect, he will acknowledge its highest attainment to consist in the discovery of *truth*, as connected with the *mind* and *ways* of God; and, admiring the productions of *art*, he will feel their greatest praise to be the successful imitation of his *works*. Happy—thrice happy, the youthful mind which has been trained, through the divine blessing, upon an enlightened system of education, to an association of thought such as this! Not only will it tend to enliven and enlighten the dawning of existence, but will dwell upon the memory during the years of maturity, and form a constant alleviation of care, and a subject of grateful enjoyment. Different, indeed, will it be with the sensitive mind of him, who, though charmed by the beauties of creation, is without

God in the world! Feelingly alive to every attraction of nature, and tasting her sweets, he knows too well how to extract poison from them; and every sympathy he feels with her lovliness only brings to memory some treasure lost, or dissapointed hope, or unsatisfying possession;—while the heaven-taught student of nature beholds in her store-house a treasury of blessings and a source of hope, whose realization belongs to a perfect and unchanging state, whither he is tending, and which is the exalted object of his supreme desires—a state, where the glories of the present world shall all be absorbed in "the glory that excelleth." To aid him in his pursuit, painting offers her images of nature's beauty to his view, and poetry accompanies him with its melody and grandeur of ideas, borrowed from those charms.

But at the commencement of his studies, when he has looked beyond the surface of things, he is discouraged by difficulty and perplexed by variety: and here he can only take refuge in some enlightened system by which a true classification of objects may be obtained, and a clear insight afforded into their resemblances and contrarities.

Subordinate to the history of man, the world of nature offers to our view four most interesting departments of knowledge:—Zoology,[*] the study of inferior animal nature;—botany,[†]—which presents to view the world of trees, plants and flowers;—geology,[‡] that science which displays the composition of the earth, and the agencies producing those changes exhibited in the superficial structure of the globe;—and astronomy,[‖]—which unfolds to the mental eye the natural history of those magnificent suns and systems that ornament the canopy of heaven and attract the visual sense by their splendour;—of these sciences a sketch is presented in the following work. The subject of Astronomy will be treated in the continuation of the series.

In treating of the distinctions between the different departments of nature, difficulties occur only in regard to the animal and vegetable kingdoms; and the most prominent among these arises from the near approach which is made by the highest vegetable to the lowest animal as respects the functions of life. To lead us to a cear conception on this subject, we shall consider the points of resemblance between animals and vegetables; and, subsequently, their points of difference. They are both possessed of organs, or parts formed for the performance of peculiar actions necessary for their existence or enjoyment:—as, in the animal, blood-vessels for the conveyance of the nutritive fluid through the frame;—the eye, for the faculty of sight;—the ear, for hearing:—and, in the vegetable, the sap vessels for nutrition, and the cuticle,[§] or outward skin, for absorption and perspiration: both are nourished by aliment of different kinds—are susceptible of growth, endowed with life, and subject to death. These are the resemblances: but when we seek by a *single definition* to draw a boundary line between them, we are sensible of much difficulty. The ingenious M. Mirbel gives the following remark as his view of the subject:—'Plants,' he observes, 'alone have a power of deriving nourishment, though not indeed exclusively, from inorganic matter, mere earths, salts, or airs, substances certainly incapable of serving as food for any animals, the latter only feeding on what is or has been organized matter, either of a vegetable or animal nature. So that it should seem to be the office of vegetable life alone to transform dead matter into organized living bodies.' Now althoughthis view is approved by a highly eminent botanist of the present day, we cannot admit a position as satisfactory which is disproved by the fact respecting the common earth-worm, whose food is a portion of the earth it inhabits—mere inorganic matter, which is thus transformed into support for an organized animal body! The distinguished and gifted M. Cuvier gives as his first character of animals, in opposition to vegetables, their *alimentary canal*, whose roots are *internal*, not penetrating the earth like the roots of plants: his second characteristic is the *circulating system*: the third is derived from the elements which compose the plant and the animal. In the composition of the plant are three elements—oxygen,[*] a gas or air that forms about a fifth of our atmosphere, and is the chief support of animal life and of combustion; hydrogen,[†] inflammable gas of extreme levity, which, when mixed with oxygen and exposed to the electric shock, forms water; carbon, a simple chemical body, presenting itself commonly in the form of charcoal. but existing in the diamond in a state of purity, and being convertible into a gas called carbonic acid. Now, in addition to these three elements the animal body contains a fourth, called nitrogen,[‡] (or, by the French chemists, named azote—opposed to life,) a gas which is destructive to respiration and combustion. This forms the third distinguishing character of animals. The fourth point of distinction is *respiration*: for however necessary air may be to the existence of plants, yet they possess no organ similar to the breathing apparatus in animals. Respiration is said to *animalise* the body, by enabling it to perform its animal functions, and the more perfectly in proportion to the healthy action of the organ. These four points of distinction, being at once ingenious and satisfactory, shall be enumerated; namely, in the animal:—

1. An independant alimentary canal.
2. A circulating system.
3. An additional element in its composition—azote
4. And a breathing apparatus."

"MAN—THE LORD OF CREATION.

Earth's potentate! th' imperial Sun illumes
 Thy dwelling, and the vast Earth teems
That thou may'st gaze upon her lovely blooms,
 Or deck thee with her diamond's beams,

Or twine around thy brow her verdant crowns
 To grace thy triumphs o'er her realms.
Thee, as his billows roll, wild Ocean owns,
 And bends beneath thy conqu'ring helms,

And strews his pearls and corals on thy shores.
 For thee, the Summer breathes her sigh,—
Her gentle choir the silvery concert pours,
 And o'er thy path her roses lie.

Yet, what art thou? Youth flies thee, and thy brow
 Bears the impress of time; thine eye
Loses its star-like ray, and life's fresh glow
 Leaves thy worn cheek, when thou must die!

Frail potentate of earth! yon lofty dome
 Thou fram'st outlasts its architect;
The tree thou plantest near thy cherished home
 Smiles o'er thy grave, in blossoms deck'd.

Flowers bloom for thee in Paradise—the fire
 Of deathless sunshine lights the skies;
But thou dost sit thee by the funeral pyre
 Of earth, till hope's last glimmering dies.

Fountains of holy bliss before thee flow;
 But thou dost quaff the mad'ning bowl
Of sin, whose latent dregs are guilt and woe—
 Death's heralds to th' unransomed soul.

Wake thee! within thy mortal bosom burns
 A quenchless star, that must illume
Heaven's glorious sphere when chaos' night returns,
 Or darkly set in horror's gloom!"

From these extracts we shall for the present leave our readers to judge of the correctness of the opinions concerning the work with which we have prefaced them; but we shall probably, in a future number, give some further specimens of the author's style.

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[*] Zoology from zoon—a living creature; and logos—discourse.

[†] Botany, from botane—an herb or grass.

[‡] Geology, from ge—the earth; and logos—discourse.

[‖] Astronomy, from aster—a star; and nomos—law.

[§] From cuticula—the outermost skin.

[*] From two Greek words, which signify to generate acids.

[†] Generating water; also from two Greek words.

[‡] Producing nitre.

Literary & Scientific Meetings, &c.

ROYAL INSTITUTION.

June 9. Last evening meeting, Mr. Faraday "on the Electricity of Steam." The theatre was literally crammed with attentive listeners. The illustration of this interesting subject was experimentally and most admirably conducted. We have so recently given the results of Mr. Faraday's investigations in regard to the electricity of steam, that we should not again recur to them were it not for the relation they bear to that extraordinary operation of nature, the thunder storm; to which many of the remarks on Friday evening had reference. How is the atmosphere electrified? Is it by evaporation? By means of it clouds and mists, rains and dews, are formed; but does the same operation carry up and supply electricity? Hitherto our knowledge extended to this; we knew that by pouring water into a hot crucible, for instance, and by the first bursting into vapour, electricity could be obtained; and hence evaporation was supposed to be a source of electricity. The discovery of the electricity of the steam boiler appeared likely to extend our views in this respect; for if the quantity of electricity produced were a result of the mere issue of steam, then might atmospheric electricity be affirmed to be due to evaporation. But Mr. Faraday asserts that there is no connexion between evaporation and atmospheric electricity; and proves that the electricity of steam is not produced by the evolution of steam, but by the friction of the water only, and that consequently there is no substance in nature so high in the scale of electric bodies as water: it takes rank above catskin, hitherto the head of the list.—*Literary Gazette.*

SUBTERRANEAN ELECTRICITY.

Notice of some Experiments on Subterranean Electricity, made in Pennance Mine, near Falmouth. By R. W. Fox. From the Transactions of the Royal Cornwall Polytechnic Society.

I have already communicated to the Geological Society of London, some results produced by the electric action of two nearly E. and W. metalliferous veins which have been partially explored in Pennance mine. I have since made other experiments in the same mine, in which ore-points, consisting of copper and iron pyrites in the two veins, were connected by a pair of copper wires, which, in most instances, acted on a galvanometer or other apparatus at the surface, an end of each wire having been brought up through a shaft for the purpose:—about 50 fathoms of wire were employed, although the ore-points in the different veins, were only about 14 to 18 fathoms asunder in a direct line.

A galvanometer of not much sensibility was generally used; the needle, which was 2½ inches long, moved on a pivot, and had a coil of fine wire passed 48 times round it. Another galvanometer, consisting of a suspended astatic needle, and 140 coils of wire, was also employed occasionally.

When the former, which call No. 1, was placed in the circuit, the needle was deflected so as to become stationary at 14° to 15° from Zero ; and it revolved rapidly round the circle when the circuit was broken and restored a few times, the direction of the electricity being from the south vein to the northern one. The other galvanometer (No. 2), suffered a permanent deflection of about 40°, when in the circuit. The interposition of a plate of platinum or zinc at either of the ore-points, or of a *point*, instead of a considerable surface of metal, did not affect the direction or force of the currents ; they were, moreover, constant in both these respects during more than eight months that the two veins were connected by the wires, and a part of this time the mine was filled with water in consequence of an accident to the machinery. Ore-points in the two veins situated within two or three feet of the others respectively, were, at one time, connected by a second pair of copper wires of the same lengths as the first ; both sets of parallel wires being kept apart, and insulated from the sides of the levels or galleries, by poles stretched across the latter at short intervals.

When galvanometer, No. 2, was placed in the second circuit, No. 1 remaining in the other, the needle of the latter receded at least 2°, standing at 12°, instead of 14° or 15° ; and the former stood at 5° or 6° less than it did when only one circuit was established. On breaking either of the circuits, the deflection of the needle in the other circuit was increased to its original amount. And when *both* pairs of wires were connected with only *one* of the instruments, the effect was almost precisely the same as that produced by one pair alone,—not greater certainly.

A copper and zinc pair of plates of about 6 inches surface, separated by a piece of cotton cloth moistened with water, was placed in the circuit, and when the currents from this source and the veins *coincided* in direction, the needle of galvanometer No. 1, stood at about 10°, that is, at less than it did when acted upon by the subterranean electricity alone, and when the deflection caused by the latter was afterwards opposed by the action of the plates, the needle went back to Zero, and even sometimes passed a little beyond it in the opposite direction. These anomalies may perhaps be referred to the low conducting power of the moistened cotton, which, small as its thickness was, very probably interrupted the transmission of the electricity more than the 14 or 18 fathoms of strata or "*Country*."

On taking the voltaic elements from the circuit, and connecting them with the galvanometer, so as to form a separate circuit, acting in an opposite direction to the electricity from the mine, the deflection showed a difference in favour of the latter, and indeed this was the case when the interposed cloth was moistened by a very weak solution of common salt.

The electro-magnetic and decomposing effects of these subterranean currents also afforded unequivocal evidence of their energy. A helix of copper wire fixed round a small horse-shoe-shaped bar of iron, was placed in the circuit formed by the wires from the veins, when the bar became so magnetized as to cause a compass needle 1½ inch long, at the distance of nearly half an inch, to oscillate through an arc of about 70°, when the circuit was alternately made and broken a few times.

A solution of hydriodide of potash was found to have been decomposed after it had been left in the circuit for rather more than a day.

The endosmose action occurred in various experiments, but it may be sufficient to give one example. Sulphate of copper in solution was put into both branches of a U shaped glass tube with clay in the bent part of it, the surface of the fluid in one branch, standing half an inch above that in the other. A piece of silver wire was plunged in each of them, the upper end passing out through sealing wax, with which the extremities of the tube were stopped, and the apparatus was placed upright in the circuit, with the wire in the higher column of the fluid connected with the negative wire. In the course of a few days this column was found to have risen one-eighth of an inch, the other having fallen in an equal degree, showing that the greater pressure of the higher column was superseded by the force of the electric action.

When small cylinders of copper pyrites were substituted for the silver wires in the branches of the bent tube, not only did the endosmose action occur, but the copper ore, forming the negative pole, had its surface gradually changed to vitreous copper in the course of two or three days,* the other ore-pole remaining unaltered. The same change was produced, and apparently with equal facility, when solutions of other salts, as carbonate of soda, or common salt, were substituted for that of sulphate of copper, in both branches of the tube. The cylinders of copper pyrites used in these experiments, were long enough for the upper ends to project above the mouths of the tube, where the opposite wires were attached to them respectively, and these were well coated with sealing wax dissolved in alcohol, to prevent the access of moisture to any part of the metal, and indeed, all but the lower portions of the ore, were coated in like manner.

In some instances, the cylinders of copper pyrites were allowed to remain in solutions of sulphate of copper in the bent tube for several weeks, when deposits of oxide of iron were found coating the inside of the tube about the negative pole. These results remind one of the ochery appearance observed in rocks inclosing much vitreous copper, a fact noticed by my friend Joseph Carne ; and it may be worth while to inquire how far the proportion of "*gossan*" in copper veins may be connected with the quantity of vitreous ore contained in them.

Since the foregoing experiments were made, I have obtained an electrotype copperplate 1½ inch long, 1¼ wide, and $\frac{1}{30}$ of an inch thick, by the agency of these subterranean currents.

The apparatus consisted of a porous earthenware vessel, resting on wooden legs in a larger one ; both were partly filled with solutions of sulphate of copper, an engraved copperplate attached to the negative wire, being placed in the outer vessel, and another plate of copper attached to the positive wire, in the inner one. After a few days it was observed that crystals of copper had been formed on the negative plate, but it was nearly two months before the apparatus was removed from the circuit, when the deposited metal was detached from the plate, having received its impression, VI INSITÂ TERRÆ.—Whilst this experiment was in progress at the surface, the water, as I have before mentioned, invaded the mine, but without interrupting the process ; it appeared, indeed, that the electric action was rather increased than diminished by this circumstance.

Before the influx of the water, an ore-point in the north vein was connected with *rock* near the south vein (generally the wall of the vein,) and an ore-point in the south vein was likewise connected with *rock* near the north vein, in both which cases, currents more or less feeble, were detected passing towards the latter through the wires, which were insulated, as before, by wooden poles stretched at intervals across the galleries. It is probable that the moisture on the rocks conducted the electricity from the ore to the metal, however imperfectly, and when different metals, as platinum and zinc, were successively substituted for the copper in contact with the rocks, the currents were modified in their force according to the metal employed, but were seldom changed in their direction. The action was most decided when the place of contact with the rock was near ore ; and sometimes the end of the wire, or rather the piece of copper attached to it, was rubbed by an assistant against the walls of one of the veins, or the sides of a "*cross-cut*" between them. Under these circumstances the astatic needle was several times suddenly much deflected, and the parts of the rocks from which this increased action proceeded, having been marked, they were broken away, when iron-pyrites was in every instance found imbedded in them ; and there can be no doubt that the smallest branch of copper or lead ore might have been detected in like manner.

On several occasions the ends of the opposite wires were placed in contact with the rocks near the two veins, when there still appeared to be a tendency in the currents to pass in the same direction, but often they could not be detected, or were too feeble for their direction to be determined with certainty. Pieces of copper pyrites attached to the wires, and imbedded in wood, were likewise used instead of the metal, for producing contact with the rocks, and with still less effect ; and when the contact was made with platinum and zinc in succession, the currents were in opposite directions, and in accordance with the action of those metals respectively ; so that the existence of independent currents under the circumstances described, though more than probable, was not clearly proved.

Electricity, generated by a pair of zinc and copper plates, was transmitted through the rocks between the two veins from N. to S., and also from S. to N., in order to detect any independent currents traversing the rocks by a *differential* effect on the needle. This method appeared likely to be a very delicate test of electric action in rocks, but no decided results were obtained, the currents passing in opposite directions apparently with equal facility, at least, the few experiments hitherto made in this way, have not led to any satisfactory conclusions relative to the point in question. It should be remarked, however, that the astatic needle employed, was inconveniently sensitive, and was often set in motion when the cause was not very obvious,

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* Some of the ore thus changed was at the last Polytechnic Exhibition.

With needle, No. 1, the case was widely different, as it could scarcely be moved by any subterranean currents that were not tolerably energetic, such as were produced when *both* the wires were in contact with *ore-points*, and then, as has been stated, it often revolved rapidly.

It has long been known that electric currents will traverse a very considerable thickness of rock or strata,* but in what degree this property may be modified by the nature or texture of the rocks, the saline contents of the subterranean water, or the proportion of ores included in the circuit, remains to be ascertained. If the influence of these different circumstances should greatly vary, electric currents generated by given elements might be rendered available on various occasions;—to ascertain, for instance, the connection of saline springs not very distant from each other, often appearing at the surface, or in mines; or of a metalliferous vein discovered in one place, with a vein which has been worked for ore in another. The conducting power of the circuit at Pennance mine, already described, was in this way found to equal that of a tolerably strong solution of common salt, the current in the latter experiment having to traverse an inch of the solution and short copper wires to complete the circuit. The conducting power of the rocks or strata in this case, therefore, appeared to be very great.

When some sulphate of copper was added to the solution, the conducting power of the latter exceeded that of the strata. Glass tubes filled with solution of salts in different known proportions might be used as tests in experiments on the relative conducting power of different strata, and they might be referred to as standards in describing the results.

Paris Academy of Sciences, July.—M. Peligo read a paper on the chemical combinations of tea. M. Peligo states that tea contains essential principles of nutrition, far exceeding in importance its stimulating properties, and shows that as a stimulant tea is in every respect a desirable article of habitual use. One of his experiments on the nutritive qualities of tea, as compared with those of soup, was by no means in favour of the latter. The most remarkable products of tea are, 1st, the tannin or astringent property; 2nd, an essential oil to which it owes its aroma, and which has a great influence on its price in commerce; and 3rd, a substance rich in azote, and crystallizable, called *theine*, which is also met with in coffee, and is frequently called *cafeine*. Independently of these three substances, there are eleven others of less importance, which enter more or less into the composition of tea of all the kinds imported into Europe. What was most essential as regards the chemical and hygienic character of the plant, was to ascertain the exact proportion of the azoted principles which it contains. M. Peligo began by determining the total amount of azote in tea, and finished by finding that it was from twenty to thirty per cent. greater than in any other kind of vegetable. M. Peligo states, that by reason of this quantity of azote, and the existence of caseine in the tea leaf, it is a true aliment.

Ireland.

THE EARL OF ROSSE'S CASTLE.

At the latter end of our notice of the great telescope, inserted in our last, we mentioned that Sarsfield did not attempt to delay in the siege of this ancient pile, although he did cannonade it. We find that we were a little misinformed on this subject, and though it was not his wish to injure it, yet he was induced for the reasons afterwards stated to make the attempt. As this is a portion of Irish history not generally known, we have no doubt of its being acceptable to our readers. The family name of the Earl is Parsons, in compliment to which the name of the town was lately changed. "Sarsfield was an enlightened, liberal man, above the prejudices of the day, and carried himself well towards all parties, making no distinction between Protestant or Catholic, but courteously treating them all alike."

After Sir Laurence Parsons' departure for Dublin, viz., on the 16th of September, 1690, an Irish army, consisting of seven battalions of foot, six regiments of horse, and four of dragoons, together with a train of six pieces of artillery, in all amounting to about ten thousand men, began to make their appearance in the neighbourhood of Burkeshill. The soldiers belonging to the Castle were at the time amusing themselves in the town, and, upon the first appearance of the enemy, a drum was beat to recall them to the garrison. Captain Curry and Ensign Hamilton remained in the Castle, and Ensign Ball, with twenty infantry and a serjeant, was despatched with orders to occupy the steeple of the church, while Lieutenant Newstead was sent out with another party towards the pound to observe the enemy's approach, and clear the neighbouring hedges of some of them that were lurking there. An officer with a few horse soon appeared, and informed him that Colonel Sarsfield, the Duke of Berwick, and Lord Galway were advancing to attack the Castle. Lieutenant Newstead soon perceived their approach in great numbers, and quietly retreated. The enemy's main body was shortly after seen in the open parks about Burkeshill, and, when they had drawn up their troops, a considerable body of their cavalry was despatched to Nicholson's Park, near a place called the Raelane, and another party to the top of Drumbawn-hill. The main body remained drawn up on Burkeshill. After some time the infantry marched towards the Castle with three pieces of artillery, namely, one twelve pounder, a six pounder, and a three pounder, and with colours flying, trumpets sounding, drums beating, and bagpipes playing. When they arrived upon that part of the green adjoining the place where Mr. Cooke's house now stands, and being within musket shot of the Castle, they planted their battery against it. In the commencement of the action the besieged hoisted a bloody flag upon the top of the fortress, being determined to hold out against such a superior force. Seeing the garrison resolved, Colonel Sarsfield, previous to the opening his battery, addresed his officers upon the folly of what they were about. He desired them to consider what they were going to do, told them, that it was a place of no great strength, and not worth their keeping, even if they had it, and should they succeed in taking it, they could not expect to retain it, as it was situate in an open country, and the English army all around them, who would certainly retake it with great loss to the Irish. He further added, that the house had cost Sir Laurence Parsons a great deal of money, and, since it would do them no service, it would be a pity to destroy the gentleman's castle. Colonel Oxburgh furiously replied that Sir Laurence was a traitor, that the king had granted his estate to him (the Colonel), and that he was willing to sacrifice the Castle to his Majesty's service, and he therefore begged that it might be laid in rubbish so as to force the garrison to submit. Upon this the enemy again summoned the place to surrender, promising quarter and protection if it was quietly given up, but they said if it was taken by storm that they would put man, woman, and child to the sword. This summons was resolutely answered by Captain Curry, who said that he would not yield while he had a man left. Such answer being given to the Irish commanders, about two o'clock in the afternoon they began firing their great guns. The first shot struck the roof of the Castle, and broke a hole through the shingles, which made a great noise, and caused the enemy to shout for joy, imagining that the Castle was coming down. At the commencement of the action the townspeople fled to the Castle, and a party of the enemy entered and plundered the town. While the assailants were approaching to form their battery they were greatly annoyed by the fire of small arms from the Castle, and particularly by that from Ensign Ball's detachment, which was posted in the top of the steeple of the church, that lay in a great measure between the castle and the enemy, and which being situate on an eminence, commanded the place all around. One of the first things Sarsfield did was to line with infantry all the hedges about the green, Godsell's-park, and behind the alms-house, which then stood somewhere between the church and the green, probably on the site of Doctor Heenan's present kitchen garden. The fire from these hedges was very annoying to the Castle, although it did not do any execution, except that the serjeant of Ensign Ball's party, who exposed himself too much above the battlements of the steeple, was killed by it. After the first fire from their artillery, the besiegers beat a parley, and Lieutenant Newstead and his party went out to treat with them, but when he came on the green, Newstead perceived that the object of the parley was only to enable the artillery to creep a little nearer to the Castle, which they were doing, until he called to them to keep their ground, or that he would fire on them. This intrepid and unexpected conduct of a brave man with only twenty infantry, so astonished and confounded his numerous opponents, that they halted, and the Lieutenant refusing to parley with them returned safely to the Castle. The parley being thus terminated the action recommenced, and continued until sunset, during which time the fire from the artillery, and of small arms from the neighbouring hedges, which was briskly answered by sharp and thick volleys from the Castle and steeple, resembled a continual roar of thunder. Lord Galway and several other officers got into the market-house, which fronted the Castle, and from thence they kept up a galling fire with fusees against the doors and windows, so that the besieged could not stir in any of the front rooms. The enemy's great guns being burst, and their engineer killed at the setting of the sun they drew off their cannon with some difficulty, and returned to Burkeshill. In this action they lost sixty men, as was confessed by two wounded soldiers whom they left behind in their retreat. The besieged lost but one man, and having expended all their bullets they cut up and melted, whilst the siege was going on, a large leaden cistern belonging to Sir Laurence, as also the lead of the roof of the Castle. They likewise pulled down two coach houses, a hen house, slaughter house, and bake house within the walls of the Castle, and uncovered a large stable and turf house, to prevent their being set on fire by the enemy. The Castle in all probability owed its escape to the cannon being directed against the flanker next to them, which forms the present eastern tower, and was considered the strongest part of the building. Some of the twelve pound shot were afterwards found sticking in the wainscotting and walls in several of the apartments. There were upwards of forty cannon shot fired upon this occasion. The Irish encamped that night at Burkeshill, at the bottom of which is a bog that supplied the town with firing, and whereon a great quantity of turf lay dried at that time. With this they kindled fires on the top of the hill, by the light of which they broke up their camp, and marched away in the latter end of the night. While the Irish were thus retreating, the occupants of the Castle were in expectation that an attempt would be made to storm it again under cover of the night. Captain Curry therefore ordered several of the doors and loose boards about the building to be split into small pieces, dipped in tallow, set on fire, and thrown round the Castle, so as to give light, and enable his men to see the besiegers, if they attempted to approach. He also, in order to show them that the garrison was on the alert, caused a continual firing at random to be kept up all night, and sent out some dragoons to make observations, who soon returned with information that the enemy were gone. This account the morning proved to be true, as they were not to be seen upon the hill.

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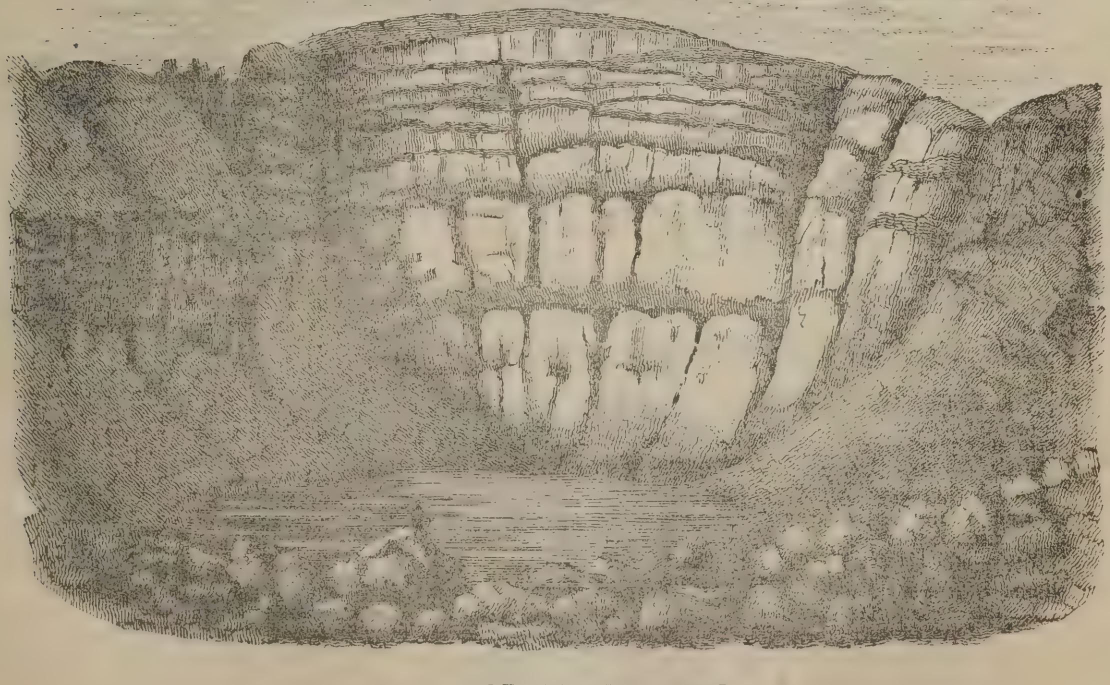
* Many instances of this occur in my paper "On the electro-magnetic properties of metalliferous veins," published in 1830, in the Phil. Transactions, p. 399. I have long ago seen a *very feeble* current act on a sensitive galvanometer after it had traversed nearly a quarter of a mile of strata, and stronger currents would probably be detected in like manner, after having passed many times that distance under the surface.

LAKE AND PRECIPICE AT COUMSHENANE,

OR, ACCORDING TO THE ORDNANCE SURVEY, COUMSHINGAWN.

THE accompanying engraving is intended to convey some *idea* of a lake of considerable extent, and its surrounding scenery, situated in a stupendous chasm on the south-east side of one of the highest parts of the Cummeragh mountains, in the County of Waterford. The precipice of solid rock which forms the back ground in our sketch, is upwards of *eleven hundred feet* in height! and (comparatively speaking) perpendicular, except where it recedes occasionally as it rises, presenting the appearance of a succession of gigantic steps, on which the *debris* from the rocks above has, in the course of ages, become *coated* with mould, and covered with verdure; forming a pleasing contrast with the brown conglomerate of the precipice. From either end of the immense wall of rock the precipitous banks decline away gradually, at each side of the lake, until at or immediately below its level, having merged into the surface of the mountain, they again become united. The view (reverse to that above) from the *foot of the precipice*, and looking out over the lake, is truly magnificent—the greater part of the County of Waterford appears as an immense map spread out below the mountain, and in clear weather a line of sea coast, of thirty to forty miles in extent, is perfectly visible. The lake is very deep, and from this circumstance, and the prodigious height of the surrounding cliffs, assumes, except just round the margin, an inky hue; a small stream issues from it, and after descending the mountain, joins the river Clodagh, before its passage through the magnificent demesne of Curraghmore, the seat of the Marquis of Waterford, or its more useful operation of giving impulse to the machinery of Mayfield Cotton Factory. This wonderful scenery, secluded in awful solitude, high amidst the wildest parts of the Cummeragh mountains, was little known or heard of until of late years; it has now, however, become an object of much and increasing interest. Perhaps, with the exception of the gap of Dunloe at Killarney, the south of Ireland can boast of no scene of this character so stupendous and magnificent. Coumshenane is distant from Waterford about fourteen miles west, and from Clonmel nine miles south-east. The precipice is nearly twice as high as the Cliffs of Moher on the Clare coast, and is inhabited by the eagle, which dwells here in gloomy, but not undisturbed grandeur, for an ornithological friend in Clonmel lately showed us some specimens of the eggs which are about the size of that of the hen.



[*Lake and Precipice, Coumshenane.*]

Poetry.

ANCIENT POETRY.

KING JOHN AND THE ABBOT OF CANTERBURY.

An ancient story I'll tell you anon,
Of a notable prince that was called king John;
And he ruled England with maine and with might,
For he did great wrong and maintained little right.

And I'll tell you a story, a story so merry,
Concerning the Abbot of Canterburye;
How for his housekeeping and high renowne,
They rode post for him to fair London towne.

An hundred men, the king did heare say,
The Abbot kept in his house every day,
And fifty gold chaynes, without any doubt,
In velvet coates waited the Abbot about.

How now, father Abbot, I heare it of thee,
Thou keepest a farre better house than me;
And for thy housekeeping and high renowne,
I feare thou workest treason against my crowne.

My liege, quoth the Abbot, I would it were knowne,
I never spend nothing but what is my owne;
And I trust your grace will do me no deere[*]
For spending of my owne true gotten geere.

Yes, yes, father Abbot, thy fault it is highe,
And now for the same thou needest must die;
For except thou canst answer me questions three,
Thy head shall be smitten from thy bodye.

And first, quoth the king, when I'm in this stead,[†]
With my crowne of gold so faire on my head,
Among all my liege men so noble of birthe,
Thou must tell me to one penny what I am worthe.

Secondlye, tell me, without any doubt,
How soon I may ride the whole world about,
And at the third question thou must not shrink,
But tell me here truly what I do think.

O! these are hard questions for my shallow witt,
Nor I cannot answer your grace as yet;
But if you will give me three weekes space,
I'll do my endeavour to answer your grace.

Now three weekes space to thee will I give,
And that is the longest time thou hast to live;
For if thou dost not answer my questions three,
Thy lands and thy livings are forfeit to me.

Away rode the Abbot, all sad at the word,
And he rode to Cambridge and Oxenford,
But never a doctor there was so wise,
That could with his learning an answer devise.

Then home rode the Abbot, of comfort so cold,
And he mett his shepherd a going to fold;
"How now, my lord Abbot, you are welcome home,
What newes do you bring us from good king John?"

"Sad newes, sad newes, shepherd, I must give,
That I have but three days more to live;
For if I do not answer him questions three,
My head will be smitten from my bodye.

The first is to tell him there in that stead,
With his crowne of gold so faire on his head,
Among all his liege men so noble of birth,
To within one penny of what he is worth!

The seconde to tell him without any doubt,
How soon he may ryde the whole world about,
And at the third question I must not shrinke,
But tell him there truely what he does thinke."

"Now cheere up, lord Abbot, did you never hear yet
That a fool he may learn a wise man witt?
Lend me horse, and serving-men, and your apparel,
And I'll ride to London to answer your quarrel

Nay frowne not, for it hath been told unto mee,
I am like your lordship as ever may bee,
And if you will but lend me your gowne,
There is none shall know us at faire London towne."

"Now horses and serving-men thou shalt have,
With sumptuous array most gallant and brave,
With crozier, and mitre, and rochet, and cope,
Fit to appear 'fore our fader the Pope."

"Now welcome, Sir Abbot, the king he did say,
'Tis well thou art come back to keep thy day,
For an if thou canst answer my questions three,
Thy life and thy living saved shall bee.

And first, when thou seest me here in this stead,
With my crowne of golde so fair on my head;
Among all my liege men so noble of birth,
Tell me to one penny what I am worth."

"For thirty pence our Saviour was sold,
Amonge the false Jews as I have been told,
And twenty-nine is the worth of thee,
For I think thou art one penny worser than hee."

The king he laughed and swore by St Bittel,
I did not think that I had been worth so little!
Now secondlye tell me without any doubt,
How soon I may ride this whole world about."

"You must rise with the sun and ride with the same,
Untill the next morning he riseth again;
And then your grace need not make any doubt
But in twenty-four hours you'll ride it about."

The king he laughed and swore by St. Jone
"I did not think it could be done so soone!
Now from the third question thou must not shrinke,
But tell me here truly what I do thinke."

"Yea, that shall I do, and make your grace merry,
You thinke I'm the Abbot of Canterburye,
But I'm his poor shepherd as plain you may see,
That am come to beg pardon for him and for me."

The king he laughed and swore by the masse
Ile make thee lord Abbot this day in his place!
"Now naye, my liege, be not in such speede,
For alacke! I can neither write nor reade."

"Four nobles a weeke then I will give thee,
For this merry jest thou hast showne unto me;
And tell the old Abbot when thou comest home
Thou hast brought him a pardon from good king John."

THE DYING THIEF.

"Lord! remember me when thou comest into thy kingdom." "This day shalt thou be with me in Paradise."

Remember thee? yes! there is mercy above
For guilt the most deep thro' my suffering love;
The mercy that moved me for Judah to die;—
It has triumphed—thy name is recorded on high.

Ere the even decline on Jerusalem's fane,
Ere sleep shall have hushed her tumultuous train,
Ere darkness revisit Gethsemane's bowers,
Or shade the false splendour of Herod's proud towers,
Ere thy clay shall be cold from this languishing death,
Thy soul shall receive the full meed of thy faith.
Thou hast scorned not thy Saviour in suffering and shame.
And now will I joy to *remember* thy name.
With me shalt thou enter my Father's abode,
First fruit of my cross, and first sealed by my blood.

SOPHIA ELIZABETH.

8th Month 1st, 1843.

Miscellanea.

DOMESTIC ECONOMY.

NEW REGISTER GRATE.

To the Editor of the Dublin Literary Journal.

THERE are few things of more importance in contributing to domestic comfort, than is the manner of heating our sitting apartments. This subject was many years ago brought prominently before the public in this country, by a foreigner well known by the name of Count Rumford. He remarked that our cast-iron grates rapidly absorbed a great proportion of the heat given out by the open fires in common use here, that a small part only of that generated by the fuel found its way into the room, and chiefly by radiation from the fire direct: the greater proportion of the heat being conveyed off by the grate, by what is called conduction; to be afterwards slowly given out again, under circumstances not calculated to benefit the apartment designed to be heated, but is carried directly up the chimney; the heat given out by the surface of the grate, in its tendency to ascend, joins the current of air in that direction, and is lost. Rumford had calculated, it would appear, by experiment, that about two-thirds of the heat of most common fires, is thus permitted to go to waste. The proper indications for effecting a remedy are, an apparatus which with common care is calculated, first, to maintain from the fire, a due, a comfortable degree of heat in the apartment, and with the greatest certainty to avoid excess; second, to moderate the draught, with a view to prevent that, and the other chimneys in the house from being liable to smoke; and to maintain a proper and healthful degree of ventilation, without undue opening of windows. To effect these indications has been the aim, in many of the improvements in parlour and dining room grates since that time, and with some success. The principal improvements have been—first, the brick-work, called Rumfording,—second, the imitations of it in iron, of which the best is that called the Register-grate, and third the close stove. According to Rumford's system room grates are built in the brick work, being carried so high as to narrow the throat of the chimney, making the fire-place narrow at the back part, and widening rapidly toward the front. The promised advantages are that the matetials do not absorb the heat by conduction so rapidly as takes place when the material is of iron, nor to the same amount, as they retain it longer; but is objected to because the brick work is expensive and unsightly, is seldom properly done and requires frequent renewal. The objection to the register-grate is, that it permits nearly the whole of the heat by conduction to be carried up the chimney and lost; both methods contribute to some extent in preventing smoke, and by reflecting a part of the radiating heat into the apartment. The sheet-iron Rumfording, in most instances performs this last only. The close stove is still more objectionable, it is apt to overheat the apartments; is often unsightly, and it wants the appearance of the cheerful open fire, so congenial to comfort in our variable climate.

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[*] Harm.

[†] Place.

What appears to be a desideratum in these erections is, an apparatus to intercept in its ascent towards the flue, the air heated by the conducting process; permitting it to accumulate within the chimney-piece, and by preventing it (the heated air) from passing into the flue, directing its flow into the apartment to be heated. This is effectively and economically done by a sheet of plate-iron placed immediately under the mantle-piece, reaching from side to side, and from front to back for an interceptor, having a hole in its centre for the smoke to be guided through, by means of a tunnel made also of sheet-iron, of the size and shape, and resting on the bottom of the grate. The front of the tunnel being left open for about eight inches above the highest bar of the grate; the upper part closed in by a frontlet. The tunnel furnished with a lid formed of the piece chiseled out of the centre of the interceptor, moving on a hinge fastened to the top of the frontlet and furnished with a ratchet like other register grates.

The above apparatus was recommended to some friends by the writer, about fourteen years ago, and has been adopted in several instances, as an appendage to the common carron grate. In one the frontlet is a figured cast with supports to harmonise. He has lately adopted the improvement in his own little sitting room, $14\frac{1}{2} \times 14\frac{1}{2} \times 11$ feet; and finds the indications verified to the full extent; it is more generally heated than before, and with one-half less fuel.

The cost was *5s. 3d.*, including *4s.* for 24lb of sheet iron.

Horizontal area of the
Chimney, $37 \times 15 = 555$ square inches.
Tunnel, 10×7 70 do. do.
Fire-place, about 90 do. do.

The area of the tunnel about 7-9 that of the fire-place, and about 1-8 that of the chimney.

J. Maxwell, M.D.

Glasgow, 7th Month, 1843.

To the Editor of the Dublin Literary Journal.

I some months since addressed a few observations, on the capabilities for its improvement which the Dodder afforded, to one of our weekly papers, but am as yet unaware whether they ever found a place in its pages. A meeting however took place lately on the subject of improving this stream, and a proposition has been made to form a reservoir, to take off its superfluous waters during its frequent floods. Of the beneficial effects of such reservoir there can be no question, but I beg leave to offer a suggestion, that in place of adopting in the first instance the very expensive plan of an adequate reservoir, the simpler one may be adopted of merely raising the weirs of the several mills on the stream as far as practicable, feeding the present courses by sluices proportioned to the increased supply. It will be obvious to any person, that in proportion to the increase of mills and mill-ponds on the Dodder, the water-power possessed by the present mills will be increased. In fine, by making this torrent a chain of lakes, alias mill-ponds, it will convert an uninteresting bed of gravel into a useful and picturesque stream.

Should the plan here proposed be found inadequate, the addition of a much less extended reservoir than would otherwise be necessary will answer the required purpose. As connected with science, and on a subject interesting to many in the neighbourhood of Dublin, I venture to offer these suggestions for the pages of the Scientific and Literary Journal.

R. H.

July 26, 1843.

GALVANIZED IRON.

About five years since a patent was taken out in this country by M. Sorel, for the purpose of galvanizing iron, by a process of coating it with zinc, in a similar manner to tinning, but for some cause, we believe, a dispute among certain capitalists, this patent has been suffered to remain in abeyance, during which period it has been in considerable use in France, and is, at the present time, we understand, extensively employed by the French government. It is now taken up in this country by some spirited individuals, who have established large works in London for zincing iron to any extent. The process may be applied to both cast and wrought iron in any form. "The effect of zinc in protecting iron from oxydation," says Professor Graham, "has been known to chemists for some time. When these two metals are in contact an electrical or galvanic relation is established between them, by which the iron ceases to be susceptible of corrosion by dilute acids, saline solution, or atmospheric humidity. It was found in experiments lately conducted at Dublin and Liverpool, that small pieces of zinc attached to each link of a chain cable were adequate to defend it from corrosion in sea water. The protection was observed to be complete, even in the upper portion of the iron chains by which buoys are moored (and which, from being alternately exposed to sea water and air, is particularly liable to oxydation), so long as the zinc remained in contact with the iron links. The protecting influence of the zinc could not be more certainly secured than in the articles prepared by the patent process, the iron surface being uniformly coated over by that metal. In trials to which I have had an opportunity of subjecting them, the iron escaped untouched in acid liquids, so long as a particle of the zinc covering remained undissolved. The same protection is afforded to iron in the open atmosphere by zinc, with a loss of its own substance, which is inappreciably minute. The zinc covering has the advantage over tinning, that, although it may be worn off, and the iron below it partially exposed, the iron is still secured from oxydation by the galvanic action, while the smallest quantity of zinc remains upon it; whereas tin, in commonplate tin, affords no protection of this kind, and not being absolutely impermeable to air and moisture, the iron under it soon begins to rust in a damp atmosphere. The simplicity and perfect efficacy of the means employed to defend iron from the wasting influence of air and humidity in this process of zinc tinning, certainly entitle it to be ranked as one of the most valuable economical discoveries of the present age.—*Architect's Journal.*

The words at the head of the foregoing paragraph are calculated to lead the public astray. An idea has gone abroad that if the galvanic fluid be passed through iron, it effectually prevents it from being ever after consumed by rust, or, as it is scientifically called, by oxydation, which arises from the combination of the oxygen of the moisture contained in the atmosphere with the iron. Now in the case of the most valuable discovery above alluded to the galvanic action must be constantly kept up by the union with the zinc, otherwise the iron will be destroyed. The action is simply that of the galvanic battery in which two metals are generally united, and in which that which most easily rusts is destroyed, and the other remains perfect.—Editor.

FINE ARTS.

An *English* gentleman, Count Hawks Le Grice, K. S. G. Chamberlain to the Pope, has lately published a work on the Fine Arts as existing in Rome, wherein much light is thrown on their history and progress. In the account of his learned labours we find the following observations:—

"The foreigner finds no obstruction in Rome to his progress in the Fine Arts; but, on the contrary, enjoys indiscriminately with the Roman, all the facilities that Rome commands. Hence we find that Thorwaldsen and Fogelberg have abandoned the frozen regions of the north, to bask in the sunshine of their fame in the more genial clime of the south. These eminent sculptors have both won laurels for their country. France, too, is not backward in the race of glory; and her splendid Academy in Rome will perpetuate her series of distinguished artists. Russia, too, extends efficient patronage to her native artists; and at this moment she maintains in Rome thirty pensioned students. Naples also has a Royal Academy here, under the direction of Baron Camuccini, the first of living painters; and Berlin, Spain, and Portugal, have also their respective Academies in Rome, as have several other nations, too numerous to be mentioned. Thus does Europe testify, that Rome is in truth the only school for the Fine Arts. And must we make one painful exception, and that exception our own, our native land? Yes, it is our painful duty to state, and we do so, in the humble hope of drawing attention to the fact, and remedying the evil, that England, with all her wealth, sends but one solitary artist to Rome from the Royal Academy, and that once only every three years! How, then, can she compete with other countries in the true classic style of art.

"The group of Nestor and Antidochus by Alvarez, executed during Canova's life time, the Discobulos of the late Kessels, the Achilles of Albasini, and the Mercury of Thorwaldsen, astonished the whole artistic world; and yet they essentially differ in style and character from the works of the immortal Canova. These productions have aided in producing a revolution in style, which is likely to be permanent; and all, with one accord, now agree to follow the pure style of Grecian sculpture. Denmark has now to boast a Thorwaldsen, Sweden a Fogelberg, England a Gibson and a Hyatt, Ireland a Hogan, Scotland a Macdonald, Italy a Zenerani and a Finelli, Spain an Alvarez, and Holland a Kessals, all educated in Rome, and essentially Roman sculptors of the revived school of Grecian art."

PURIFIED AIR.

Dr. Payerne has obtained a patent "for a mode of keeping the air in confined places in a pure or respirable state, to enable persons to remain or work under water, and other places, without a constant supply of fresh atmospheric air.

The first thing claimed and specified is, the depriving the atmosphere in confined places of the carbonic acid gas which it contains, produced by respiration or combustion, by means of quick lime and caustic alkali, or of the lime alone, which is to be dissolved in eight times its weight of water. The air in the apartment is to be passed through this caustic solution by a pair of bellows, the nozzle of which reaches nearly to the bottom of the vessel containing the lime and water. The vitiated air, thus coming in contact with the lime, the carbonic acid gas is absorbed. It is calculated that one cubic foot of atmospheric air must be purified for each person per minute.

Second. The patentee claims the restoring the requisite quantity of oxygen, to supply the place of that consumed; which oxygen is to be procured from the chloride of potash, or driven off from the peroxide of manganese by means of heat, into the apartment, or allowed to escape from vessels, into which it may have been previously compressed.

Third. The patentee claims further, the purification of the air contained in the diving bell, by the process described in claim 1, and the restoring the requisite proportion of oxygen from a vessel attached to the diving-bell, into which the oxygen had been previously compressed; also the allowing the escape of atmospheric air, which had previously been compressed several atmospheres, into two compartments, one of which is situated at each end of a diving bell, somewhat resembling a boot inverted, the centre one being occupied by the diver or workman, who may by means of stop cocks regulate the supply according to their wants.—*Civil Engineer.*

The patentee has already proved the value of his discovery, by remaining down in a diving bell for hours, without any supply of fresh air being sent down to him. The carbonic acid gas, which we exhale from our mouths, and which if re-breathed would immediately destroy life, is, by this process, deprived of its injurious properties, and pure air is thus re-formed, capable of supporting life. Thus persons in a diving bell, or other secluded chambers, are rendered independant of the want of atmospheric air.—Editor.

THE GASTRIC JUICE.

The gastric juice possesses three remarkable qualities—a coagulating, antiputrescent, and solvent power. The effects produced upon milk, as we see when infants reject it, and the making of whey from the rennet bag of the calf—which is its fourth or digestive stomach—are two examples which sufficiently prove this property. Dr. Fordyce found that the most putrid meat, after remaining a short time in the stomach of a dog, became perfectly sweet. The epicure who relishes game most when "high," appears to have had an intuitive knowledge of the safety with which he might gratify his palate in this particular. The boa-constrictor that gorges itself at distant periods, has a portion only of its prey in the stomach; that part without, soon undergoes decomposition; but as this proceeds into the stomach, the putrefactive process is at once suspended, and, as in the canine species, it becomes perfectly sweet by the agency of the gastric juice. Experiments as to the solvent power of this agent were made by Reaumur and Spallanzani on pieces of the toughest meats and hardest bones, with the most uniform results. More lately, "Dr. Stevens, of Edinburgh, showed very satisfactorily the action of gastric juice on various substances, by enclosing them in silver balls, perforated with holes, which were swallowed by an itinerant German, who went about exhibiting the singular power he had acquired of swallowing stones, &c. In one of these balls, divided by a partition, were enclosed four and a half scruples of raw beef, and five scruples of raw fish. In twenty-one hours the beef had lost one and a half scruples, and the fish two scruples. In another ball was placed some beef that had been previously chewed, and in thirty-eight hours after it had been swallowed, it was found quite empty." We mentioned, when considering the vital properties, that the gastric juice, will, when the individual dies, dissolve the very stomach which had secreted the powerful solvent.

It would appear that this remarkable agent is more or less acid, containing free muriatic acid, and sometimes acetic. It has been observed, when the food is chiefly vegetable, that one or both these acids prevail. It is plain that the gastric juice secreted by an herbivorous animal, and that by one exclusively carnivorous, is not likely to possess precisely identical properties.

"Dr. Stevens found that the gastric juice of dogs produced no effect upon vegetables, but easily dissolved flesh, bones, and even ivory, while the same fluid in the sheep or the ox made no impression on beef, mutton, or other animal bodies, but acted energetically on vegetables." How instinctively we seek those substances which are required by the animal economy! Before the discovery of the existence of muriatic acid (spirits of salt) or of acetic acid (vinegar) as a constituent of the gastric juice, how commonly did we combine vinegar with indigestible substances—salad for example—with the purpose of more readily effecting their digestion! Nature unites with several vegetable substances, more especially fruits, this acid, probably with a view to facilitate the process of the stomach. The knowledge of the fact that a free acid is found in healthy gastric juice, should render us cautious in the indiscriminate use of alkaline substances, such as soda, lime water, and magnesia; these, by chemically uniting with the free acid, would neutralize its agency; for we are well aware, when there is a redundancy of acid, indicated by heart-burn, that these substances prove useful for the foregoing reason. Those that are prone to this affection are instinctively desirous of avoiding vegetable food, which, from what we have stated, must necessarily increase the tendency to acid secretions; and besides, owing to its imperfect digestion, it runs into fermentation, the result of which is, the extrication of carbonic acid gas (fixed air) and the production of this very acid, the acetic. Thus we find that those circumstances fully explain why such individuals labour under flatulency and heart-burn, and also the reason why they are —as so frequently occurs in children—led instinctively to pick the lime from walls, consume cinders and ashes, in order to neutralize the prevailing excess of acid.

Gastric juice coagulates albumen (white of egg) before it is dissolved by this agent; although heat and the latter both render albumen solid, yet the change effected in each instance may not be identical, for we find some can digest very well an under-done egg, while a hard one would render them dyspeptic. Another very important property possessed by the gastric juice is that of converting the mass—consisting of any given variety of both animal and vegetable food—into one homogenous pulpy mass, in which we can no longer recognise the separate ingredients or their several qualities.

It is a remarkable and important fact, established by the experiments of Dr. Beaumont, that the quantity of gastric juice secreted bears relation not to the mass of food received by the stomach, but to the quantity of aliment required by the system. Hence, if we should eat more than the wants of the body require, we are punished by indigestion supervening, owing to that portion of food which is in excess not being chymified.

From this circumstance it would appear that eating less than what appetite demands, would be erring, if at all, on the safe side, for we find that those who rise from table without fully satisfying their appetite, are, generally speaking, better, and more comfortable in their subsequent sensations, than those who indulge to satiety.—*Hayden's Physiology for the Public.*

Electrotype.—At the last meeting of the Horticultural Society, in Regent-street, some most beautiful specimens of the application of the Electrotype process to vegetation were exhibited by Messrs. Elkington of Regent-street. Upon the surfaces of the leaves a deposit of copper was thrown down, so as to form a perfect representation in metal of the surface of the foliage. Since that time we have been favoured by Messrs. Elkington with a sight of other leaves coated with gold and silver, as well as copper. Among these were the Pelargonium leaf, having all its glandular hairs preserved with admirable precision; an ear of wheat, an ear of fennel, a fern, with its fructification, a shoot of furze bush, and an insect (a carabus), with every part of it encrusted with a metallic deposit. In our opinion this opens to us quite a new and most interesting field to the application of the electrotype process. The ornaments required for the decoration of plate may thus be furnished by the unerring hand of nature herself, instead of the unskilful tool of a workman; flowers or leaves for the hair or the dress may be prepared with all the lightness and finish of reality; and we see no reason why ladies should not to day send their favourite flowers to the silversmith to be silvered or gilt for the evening, and then return them on the morrow, in order that the metal may be reduced, and again employed in encrusting other things. But it would lead us too far from our subject if we were to speculate upon the possible application of this most curious process.—*Gardeners' Chronicle.*

Painting on Enamelled Lava.—Many years since some attempts were made at Sèvres at painting on tablets of porcelain, more than three feet in width, and they were attended with some favourable results. But the porcelain in this state was very liable to warp, and to be broken in the baking, while tablets as large as six feet of the stone of Volvic,* will stand the fire as often as the painter desires, without appearing to suffer the least fissure, warping, or shrinking, in any part. The first discovery of this fact, and the use which might be made of it, is due to M. de Chabrol; but M. Morelique, a chemist well known as a manufacturer of colours for painting on porcelain, is the person who has applied himself with the greatest assiduity to find the most suitable means for the application of enamel on a large scale upon the volvic stone. Thus a new art has appeared, of which the most flattering hopes might be entertained, furnishing in stone a painting as indestructible as the stone itself, capable of resisting the inclemency of the seasons, and the effects of time; and which therefore, might in time be equally applied to the purposes of fine and delicate internal decorations, and, on a grander scale, to decorate the exterior walls of public edifices. But this art would have perished at its birth, if M. Hittorf had not been struck with this new application of painting in enamel, and determined to devote his talents and capital to the object of bringing it into practice. After several pieces of large dimensions had been executed under his direction, it became evident that painting upon lava might attain not only to the perfection of painting upon porcelain, but, as it might be returned to the fire as often as the artist wishes, which is not the case with porcelain, there was nothing to prevent it from answering the occasions of even those artists who are the most minute and scrupulous in the imitation of nature. It is, however, in the manufacture of vases, candelabras, and the shafts of columns of great richness, and in imitating precious marbles, costly gems, and magnificent incrustations, that the enamelled stone of the extinct volcanos in Auvergne, may be expected to become an important part of the national manufacture. M. Hittorf is at this moment occupied in making trial of the various and interesting applications of which this art is susceptible. It will probably be found that the enamelled lava may be very advantageously employed to line dining and bathing rooms, for pavements in imitation of mosaic, and for the rich internal decoration of bazaars and showrooms. A distinguished artist, M. Gourlier, has already made use of it for such a purpose in the metropolis. The most essential thing, at present, is to bring the enamel aud the colours to perfection, and to instruct artists in the proper use of them. The facility with which the colours may be employed in this work, is vouched by M. Abel de Pujol, who himself made use of the material in executing the altar-screen of St. Elizabeth's chapel, and declares that to paint in oil and on enamel was nearly the same thing; and that it required only a little practice to make tne difference between the two imperceptible. The 'Journal des Artistes,' from which this statement is drawn, indulges in the most sanguine anticipations of the consequences of this discovery. It considers that a great revolution has taken place in the art of painting, by means of which the public monuments will ultimately be covered with the paintings of great masters, whose numerous works will pass down to the most remote posterity without alteration.

A Poblana Peasant.—The dress of the Poblana peasant is pretty, especially on fete days. A white muslin chemise, trimmed with lace round the shirt-neck and sleeves, which are plaited neatly; a petticoat shorter than the chemise, and divided into two colours; the lower part made generally of a scarlet and black stuff, a manufacture of the country; and the upper part of yellow satin, with a satin vest of some bright colour, and covered with gold or silver; open in front, and turned back. This vest may be worn or omitted as suits the taste of the wearer. It is without sleeves, but has straps. The hair plaited in two behind, and the plaits turned up and fastened together by a diamond ring, long ear-rings, and all sorts of chains and medals and tinkling things, worn round the neck. A long broad coloured sash, something like an officer's belt, tied behind, after going twice or thrice round the waist, into which is stuck a silver cigar case. A small coloured handkerchief, like a broad riband, crossing over the neck, is fastened in front with a brooch: the ends trimmed with silver, and going through the sash. Over all is thrown a reboso, not over the head, but thrown on like a scarf; and they wear silk stockings, or more commonly no stockings; and white satin shoes trimmed with silver.—*Life in Mexico.*

Street Cries of Mexico.—There are an extraordinary number of street cries in Mexico, which begin at dawn and continue till night, performed by hundreds of discordant noises impossible to understand at first, but Senn has been giving me an explanation of them until I begin to have some distinct idea of their meaning. At dawn you are awakened by the shrill and desponding cry of the Carbonero, the coal man, "Carbon! Senor," which as he pronounces it sounds like "Carbosiu." Then the greaseman takes up the song "Mantequilla! lard! lard! at one real and a half." "Salt beef, good salt beef!" ("Ceana buena") interrupts the butcher in a hoarse noise. "Hay cebo, o, o, o, o, o?" This is the prolonged and melancholy note of the woman who buys kitchen stuff, and stops before the door. Then passes the *cambesta*, a sort of Indian shebrader, or exchange, who sings out, "Tejoroles por nenas de chile," a small fruit which he proposes exchanging for hot peppers. No harm in that.

A kind of ambulatory pedler drowns the shrill treble of the Indian cry. He calls aloud upon the public to buy needles, pins, thimbles, shirt-buttons, tape, cotton-balls, small mirrors, and he enters the house, and is quickly surrounded by the women, young and old, offering him the tenth part of what he asks, and which, after much haggling, he accepts. Behind him stands the Indian with his tempting baskets of fruit, of which he calls out all the names, till the cook or housekeeper can resist no longer, and putting her head over the balustrade, calls him up with his bananas and oranges and granaditas, &c. A sharp note of interrogation is heard indicating something that is hot, and must be snapped up quickly before it cools. "Gorditas de horna caliente? Little fat cakes from the oven, hot." This is in a female key, sharp and shrill. Follows the mat-seller, "Who wants mats from Piebla? Mats of five yards?" These are the most national cries.

At midday the beggars begin to be particularly importunate, and their cries and prayers and long recitations form a running accompaniment to the other noises. Then above all rises the cry of "Honey cakes," "Cheese and honey," "Requeson and good honey," (Requeson being a sort of hard curd sold in cheeses). Then comes the dulcemen, the sellers of sweetmeats of Meringues, which are very good, and of all sorts of candy, "Caramelos de esperma cocadillo de coco." Then the lottery men, the messengers of fortune with their shouts of "The last ticket yet unsold for half a real," a tempting announcement to the lazy beggar who finds it easier to gamble than to work, and who may have that sum hid about his rags.

Towards evening rises the cry of "Tortillas de Cuajada," curd cakes, or, "Do you take nuts," succeeded by the cry of "Chesnuts hot and roasted," and by the affectionate venders of ducks, "Ducks oh! my soul, hot ducks," "Maize cakes," &c. As the night wears away the noises die off, to resume next morning in fresh vigour.—*Ib.*

A Royal Request.—The papers relative to the expedition to the river Niger were on Wednesday presented to parliament. Amongst other documents will be found a dispatch from Captain Tucker, dated Fernando Po, May 31, 1840, to the Admiralty, giving an account of his mission to King Denny, of the Gaboon river. "His Majesty" seems to have been infinitely delighted with the respect paid to him by the repeated salutes with which Captain Tucker honored him, but sadly disappointed with the presents—a gold medal and chain—sent to him by the Queen of England. "His Majesty" gave expression to this disappointment by dictating the following letter to the Queen:—

"To Queen of England.

"Sister—King Denny, of Sandy Point, River Gaboon, must embrace you for the things you send me by Captain Tucker, your war-ship Wolverene, who dashed them me this day with grand ceremony which much pleased me. King Denny was too much glad to save Queen's men belong Lynx, which cost 120 dollars, which I too much glad to give Queen. King Denny wish very much to be brother to Queen, and will be very glad suppose Queen no let Spanish ship come for slaves; and suppose Queen send plenty English ships to me for trade for ivory, gum, bees'-wax, dye-wood, and ebony. And King Denny wish my sister send me great-coat, with secampotos or epauletts, waistcoat, and trowsers, plenty gold in them; cocked hat with gold and feather; sword and belt, plenty gold; and two easy chairs: and King Denny wishes Queen health and good-bye. King Denny very glad he hear Queen got husband.

"King Denny Town, his
3d day of Moon; "King ⋊ Denny,
i. e., May 16, 1840." mark.

Lord John Russell, it would appear, from another dispatch, consented, on the part of the Queen, to cover "his Majesty's" nakedness with the frippery he asked for, "upon his engaging to abolish the slave trade!"

A Characteristic Relict of the Grand Army.—There is still in existence an extraordinary woman, whose maiden name was Therèse Figueur, but who was afterwards married to, and is now the widow of, a man named Sutter. At an early age she was induced by circumstances to enter as a soldier in the Allobroge Legion. This was in 1793, and she took part at the siege of Toulon. The next year she was removed to the 15th dragoons, and made the campaign of Catalonia with the army of the Eastern Pyreneees When the Convention interdicted women from serving, the generals of this army obtained a special exception in her favour. She was in Bonaparte's campaigns in Italy. After the battle of Novi, she entered the 9th dragoons, in which regiment she followed the war in Piedmont. The first consul granted her a pension of 200f. for her distinguished conduct as a dragoon during eight years. In 1802 she was again enrolled in the 9th dragoons, was at the battles of Austerlitz and Jena, and continued her career until the capture of Berlin. In 1810 she went into Spain as one of the Imperial Guard, and in 1812 was made prisoner near Burgos by one of the Curé Merino's guerilla parties, and sent into England. She returned into France in 1814, and on the eve of the Emperor's departure for Waterloo was presented to him in her uniform as a chasseur of the Imperial Guard. Certificates signed by several marshals and generals attest that she received a gun-shot wound at Toulon, four sabre wounds in Piedmont, had four horses killed under her, and saved the lives of General Noguez and several other officers. She is now sixty-nine years of age, and continues to enjoy her pension. M. St. Germain Leduc, a friend of this female warrior, has from her dictation written a history of her strange eventful life, which forms one of the most interesting books that has been published for many years.—*Galignani's Messenger.*

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* A small town of France in the department of Puy de Dôme.

Hawk story.—There was a pair of hawks nearly as large as the eagle, which visited our neighbourhood for twenty years—how much longer I know not. They were curious and cunning creatures.—They generally took five or six chickens annually from each farmer. Nobody could shoot or trap them. One time when I was from home they pounced upon an old hen and killed her, but could not carry her off.—I came home soon after; and placed myself in the barn with a double barrelled gun about eight rods from the hen. There was a hole through the barn door big enough for the gun barrels. There I waited, expecting they would come back after their prize. They did come back! but whether they saw the barrels or smelt mischief otherwise I know not. They flew round awhile—lit several times twenty rods off, and then cleared out for ever from the hen. But the most curious thing about these hawks was their races. About a mile north of my house is a hill, the highest in town; and south east from me sixty yards, is another two hundred feet high, and nearly perpendicular on the north side. Many a day I have seen these hawks have their races as regular as horses or men. They would fly slowly around in the air, and slowly take their way to the height of land on the north; and then apparently start fair, and with the rapidity of lightning, or at least as fast as they could wing their way, rush to a certain bush on top of the south hill; and then wheel round and wend their way back again for another race.

One afternoon I had watched them several rounds. A thought struck me that if I should get behind the bush which was their goal, I might be revenged of the old hen and chickens. Accordingly I placed myself there with the double barrel. They came—I snapped the lock, but it missed fire. I had scarcely ever known it to miss fire before.—I felt provoked, for I was sure of both, or of one of them at feast. They wheeled round—looked scornfully at me, but had no more races that day. A few days after I saw them racing again; my revenge was gone—I was glad I had not killed them.—*Farmer's Monthly Visitor.*

Extraordniary play upon the xes.—Charles X. x king of France, was xtravagantly xtolled, but is xceedingly xecrated. He xhibited xtraordinary xcellence in xigency, he was xemplary in xternals, but xtrinsic on xamination; he was xtatic under xhortation, xtreme in xcitement, and xtraordinary in xtempore xpression. He was xpatriated for his xcesses, and to xpiate his xtravagence xisted and xpired in xile.

Improvement in Metal for Ships, &c. Mr. William Fairbairn of Manchester, engineer, has obtained a patent for "certain improvements in the construction of metal ships, boats and other vessels; and in the preparation of metal plates to be used therein." They consist in preparing or rolling the iron intended to be used in the construction of ships and vessels, by forming at each edge, and the whole length of the plate, a raised border; or, in other words, the plate is made at each side or edge, where the rivets pass through, something like double the thickness of any other part of the plate; one side of the plate being plain, which is to be the outside in the construction of a vessel, the other side having two projecting edges or borders. The rivet holes on the plain side of each plate are to be counter-sunk, so that the head of the rivet may be flat or flush with the face of the plate; and in joining two or more plates together, they are not to overlap each other, as hitherto practised, but the plates are placed with their edges together; and behind the two is placed a metal band, bar, or rib, perforated with a double row of holes, to correspond with the holes in the edge of each plate, and the whole are firmly rivetted together, so as to form a water-tight joint; and where greater security or strength is required, the metal bands or bars are made in the form of a T, or with a projection on the back side; by this arrangement the resistance of a vessel in the water will not be so great, and the plates at the parts where the rivets pass through will be equal in strength to any other part of the plate; whereas in those of ordinary construction, the plates are considerably weakened by making the rivet-holes, as such parts have always been found to give way when the plate itself has remained entire. —*Record of Patents.*

Chinese Method of Taking Cattle.—A party, fifty strong, was formed into one line, about ten feet apart: and a rope consisting of stud-sail haul-yards, extended from right to left, which the men held as high as their breasts, keeping it *taught.* This line reached nearly across the island, by which means the herd were driven down to a point of land, where they faced their pursuers, bellowing and tearing up the ground with their feet. At length, headed by a tremendous black bull, they charged the centre of the line. The extremities of the rope being kept *taught,* the foremost ones fell over it, when a rush was made on them, and before they could recover their legs they were firmly tied with spun yarn. In this manner from five to six were caught at a *haul,* when, having a rope secured round the horns and another to one of their hind legs, the lashings were cast off, and they were worked down to the boat.—*Saturday Magazine.*

Crocodiles.—At Senaar, crocodiles are often brought to market, and their flesh is publicly sold there. "I (says Buckhardst once tasted some of the meat at Esne, in Upper Egypt. It is of a dirty white colour, not unlike white veal, with a slight fishy smell. The animal had been caught by some fishermen in a strong net, and was about twelve feet in length. The Governor ordered it to be brought into his court yard, where more than a hundred balls were fired against it without effect, till it was thrown upon its back, and the contents of a small swivel discharged at its belly, the skin of which is much softer than that of the back."

Indian Eloquence.—The following specimen of elegiac pathos was delivered by an Indian over the contiguous graves of her husband and infant: "The Father of Life and Light has taken from me the apple of my eye, and the core of my heart, and hid them in these two graves. I will moisten the one with my tears, and the other with the milk of my breast, till I meet them again in the country where the sun never sets."

Gold and Silver.—The following is the amount of ounces of gold and silver bullion or coin exported from Great Britain, from the year 1837 to the 10th of March 1843, according to an official return just made to the House of Commons:—

YEAR.	OZ. OF GOLD.	OZ. OF SILVER.
1837	201,481	13,640,004
1838	481,431	13,359,822
1839	657 322	13,8 0,483
1840	474,571	15,968.277
1841	31,635	15,354,423
1842	117,192	13,982,788
1843	198,615	1,449,320
Total	12,032,247	8,755517,

Self Love.—It has occurred in every age, and in every department of life, that men of the greatest ability have sunk and failed, merely from the overrated opinion which they have held of their own qualifications. Cornelius Nepos, in writing of Themistocles, says, "What led in our opinion to his greatest misfortunes, was, that he entertained too high an opinion of his own valour and talents."

Exports of Manufactures and Raw Material.—The decrease of our exports in manufactured goods on the one hand, and the increase which, on the other, has of late years taken place in the amount of raw materials sent out of the country to be manufactured in other lands, may be taken as one way of accounting for the distress and suffering which exists throughout the country, and more particularly in the manufacturing districts. It appears, from "Burn's Commercial Glance," that the amount of cotton yarn exported from this country in 1841 was 115,665,488 lbs. and in 1842,136,537,162lbs, showing a progressive increase in the exports of raw material. In 1841 the total quantity of printed and dyed calicoes exported from England, was 278,784,275 yards, and in 1842 236,012,641; showing the decrease in the manufactured exports. The exports of cambrics show a falling off of full 50 per cent. upon a comparison between the same two years.

Anagrams.—An anagram is the dissolution of any word or sentence into letters as its elements, and then making some other word or sentence from it, applicable to persons or things named in such original word or sentence. There are words of this description, both of ancient and modern application, which exhibit coincidences that are truly astonishing, and almost incredible, until proved by examination, at the same time affording a very peculiar fund of amusement. The following is a selection of some of the best transpositions :—

Astronomers makes Moonstarers.
Democratical — Comical Trade.
Encyclopedia — A nice cold Pye.
Gallantries — All great Sins.
Lawyers — Sly Ware.
Misanthrope — Spare him not.
Monarch — March on.
Old England — Golden Land.
Presbyterian — Best in Prayer.
Punishment — Nine Thumps.
Penitentiary — Nay I repent it.
Radical Reform — Rare and Frolic.
Revolution — To love Ruin.
Telegraphs — Great Helps.

Cure for the Tooth-Ache—The Yellow Iris.—But above all, (says Ettmuller), which I have hitherto known, the juice of the root of the *iris latea* rubbed upon the tooth, which is painful, or the root itself chewed in the mouth, in an instant, as if by charm, drives away the pain of the teeth, arising from what cause soever. He that communicated it to me, affirms that he had tried it forty times at least, with like success. I myself have at various times tried it, and a great many others have done the same by my persuasion, and I hardly ever knew it to fail. The seeds roasted make excellent coffee, superior to any other substitute.—*Lon. Med. and Surg. Journal.*

Ingenuity of Birds.—Thrushes feed very much on snails, looking for them in mossy banks. Having frequently observed some broken snail shells near two projecting pebbles on a gravel walk, which had a hollow between them, I endeavoured to discover the occasion of their being brought to that situation. At last I saw a thrush fly to the spot, with a snail-shell in its mouth, which he placed between the two stones, and hammered at it with his beak till he had broken it, and was then able to feed on its contents. The bird must have discovered that he could not apply his beak with sufficient force to break the shell while it was rolling about, and he therefore found out and made use of a spot which would keep the shell in one position. When the lapwing wants to procure food, it seeks for a worm's cast, and stamps the ground by the side of it with its feet, somewhat in the same manner as I have often done when a boy, in order to procure worms for fishing. After doing this for a short time, the bird waits for the issue of the worm from its hole, which, alarmed at the shaking of the ground, endeavours to make its escape, when it is immediately seized, and becomes the prey of the ingenious bird. The lapwing also frequents the haunts of moles. These animals, when in pursuit of worms, on which they feed, frighten them, and the worm, in attempting to escape, comes to the surface of the ground, where it is seized by the lapwing. The same mode of alarming his prey has been related of the gull.—*Jesse's Gleanings in Natural History.*

Hydrotherapia, or the water cure.—The water cure has received, since we last touched upon the subject, a very severe check in this country. Cases which have terminated most disastrously, after treatment in various of the hydropathic establishments, are spoken of and well known, in every circle of society. There is none almost that has not its particular case to relate. On the other hand, notwithstanding the profusion of treatises upon the subject in general, there have been no details of practice given to the medical or to the general public, since the introduction of those establishments into this country; although it is manifestly to the advantage of the professors of the art to publish their successes; for they may be sure that the public will circulate their reverses pretty quickly without the aid of the printing press. Whether this state of things, so unfavourable to the progress of hydrotherapia, is owing to the insufficiency of the proposed means, to the climate not being adapted for them, or to the want of practical knowledge on the part of the professors, we cannot venture to say; it cannot be solely the last, for many of the English establishments are under the care of persons well versed in the art; but certain it is, and very distinctly evident, that more caution and discrimination are requisite, than have hitherto been given to the use of so remarkable a remedy, and we cannot for a moment entertain the opinion that, whatever may be the prejudice entertained by the public with regard to metastasis, or the driving inwards of a disease, that any medical man has ever treated a patient without regard to his power of reaction. For the same reason, the public will, no doubt, be careful not to employ even as an hydrotherapeutist, one who is not educated as a medical man, not even on the faith of Priessnitz's successes; for all may not have the same intuition of the resources of the human constitution; and it is always safer to depend upon education and experience, which are more or less certain, than upon genius or intuition, which, however much vaunted, may often be found sadly wanting in an emergency.—*Literary Gazette, July* 1.

Iron Dwelling House.—A large iron mansion has been built by Mr. Laycock, of this town, in separate plates. It is to be sent to Africa, where it will be used as a palace by one of the native kings. This singular building has three floors, exclusive of an attic. The basement story is seven feet high; the second ten feet; and the third, in which is the grand suit of state apartments, is twelve feet high. In these his sable majesty will give his state audiences. The principal reception room, the presence chamber, is fifty feet by thirty, and ornamented throughout in a style of most gorgeous magnificence. To counteract any annoyance from heat, the inventor has contrived the means of admitting a current of air, which can be regulated at pleasure to pass through an aperture left between the outer plate and the inner panel.—*Liverpool Albion.*

Swiftness of Time.—It is only by a retrospect to the years which have passed and have been mis-spent, that we can discern and regret the velocity with which they have escaped us. Seneca, the Roman moralist, has a similar observation, "The swiftness of time is infinite, as is most evident to those who look back."

Locke.—A workman employed in removing the foundation of an old house near Montpellier, found a glass bottle hermetically sealed: it was found to contain, in an excellent state of perservation, a Latin inscription on vellum—the following is a translation:—"Mortal! thou hast found a treasure! Here are placed before thee, ***Faith in Jesus Christ*** and ***Moderation*** in things terrestrial. The bottle is neither empty, nor of little worth, which affords cheerfulness to the mind, and health to the body. Quaff of this, and thou shalt imbibe what is more precious than the juice of Falernum or Chios. So wrote John Locke, Englishman, in the year of our Lord 1675."

Instinct and Sagacity of a Horse.—The following anecdote, related in a French paper, proves that the instinct of a horse is sometimes as surprising as that of the dog, and that it is equally intelligent and susceptible of warm attachment to its master. A young gentleman went on horseback from Paris to the Faubourg St. Antoine to receive some money, and on his return, wishing to let his horse drink, by some accident fell into the water and was drowned. The horse immediately returned to the house where its master had been to receive the money, and by its neighings and the noise of its feet attracted the attention of the people of the house, who were no less surprised than alarmed at its reappearance without its rider. One of them mounted the horse, and allowed it to go its own course. The animal set off at full trot in the direction of the river, and stopped at the very spot where it is supposed its master had disappeared. The body was taken out of the water, and in his purse was found the money he had received.

A lawyer once pleaded with great ability the cause of his client for nearly an hour. When he had done, his antagonist, with a supercilious sneer, said he did not understand a word the other said; who neatly replied, "I believe so, for I was speaking law."

Salt.—Salt was an object of taxation at a very early period in this country. Ancus Martius, 640 years before the Christian era, ordained a tax on salt-works. This tribute was continued on the Britons when our Island was possessed by the Romans, who worked the Droitwich salt-mines, and made salt a part of the pay of their soldiers' ***salarium***, or salary. Hence the custom at the Eton montem of asking for "salt."

Uses of Cream and Butter.—Butter possesses the general properties of other oily aliments, being very nutritive, but difficult of digestion. As it contains, however, a small portion of milk and curd, it is more easily assimilated than pure oil or fat; and it possesses the advantage of being exceedingly agreeable. Dyspeptics ought to use it only in small quantities, and mixed up with some other alimentary substances of easier digestion. When rancid or rendered empyreumatic by heat, it ought to be avoided. Butter enters as a constituent into many culinary and confectionary preparations, which are thereby rendered more or less difficult of digestion. Cream posesses dietetic properties similar to butter; but the fatty matter being less concentrated, it is lighter, and not so apt to produce indigestion as the latter.—*Dr. Davidson's Treatise on Diet.*

We hear that, on examining the bottom of the steamer *Enterprise*, the horn of a saw fish was found to have penetrated the copper (28 oz.) and the bottom planks just above the bilge keel in a lateral direction, and then to have broken short off, remaining in the bottom, and acting as a stop gap against the admission of water. The copper appears to have been completely shattered by the force of the thrust, and there is very little doubt that a leak would have been established, had not the horn come in contact with a stout piece of timber inside the planking, and then broken off at about three and a half or four inches from the point. The piece of horn and a part of the timber in which it remains have been taken out of the vessel's bottom, and sent to the Governor-general, who, we dare say, will send it to the Asiatic Society, to be placed on the same shelf with a similar curiosity that has long astonished the wondering visitors of that interesting institution.—*East India Journal.*

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"*Utrum mavis elige.*"—MART.

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[ADVERTISEMENT.]

18, New Burlington-st. London,
August, 1843.

SIR—Various conflicting rumours having gone abroad relative to the condition of Lord Francis Egerton's health, I have his lordship's kind permission to report the fact in your paper. On Tuesday, the 4th ultimo, I was first called to see his lordship, whom I found on the eve of one of those severe attacks of gout, complicated with lumbago, to which his lordship has been subject for many years. The attack had commenced in the right elbow, and his lordship was desirous of trying the Hydropathic remedy, which I immediately put in practice by enveloping the entire body in three *successive* wet sheets, each sheet being succeeded by cold ablution; which treatment was repeated with little variation twice a day for a week, the shower bath having been substituted for the ablution. The disease successively attacked and retired from the hands and feet; but in no single instance did it retire *suddenly*, as is always the case, when translated from one part to another; but disappeared *gradually* and slowly, leaving behind it the usual degree of *puffiness*. On the 8th day the acute stage might be said to have been over, his lordship now only suffering from lumbago. On the evening of this day, during my absence, and without my knowledge, his lordship took a table-spoonful of Castor Oil, to which however I might not have objected had I been present. But about two hours after taking the oil, and before it had operated, his lordship also took *two tumblers of iced water.* Shortly after the bowels became distended, and the oil not proving effective, his lordship took another dose; and that also proving inefficient I was sent for about six in the morning. Having resorted to the necessary means for the overcoming the torpor, into which the bowels had been thrown by the iced water, which his lordship had imprudently taken upon the first dose of oil, the distension began to subside. During the night the bowels were copiously relieved in consequence of the simultaneous action of *two doses of castor oil and a black draught*, and *not* in consequence of any translation of gout to the bowels, as was wrongly reported, and his lordship immediately became convalescent, and shortly afterwards left town for Hatchford; and from a note which I had the honour to receive from his lordship, dated the 6th of the present month, I am glad to learn that his lordship is going on remarkably well, and has been for some time, with the exception of weakness, "free from inconvenience of any kind." The result of this case has entirely confirmed my conviction that the hydropathic treatment in acute gout is a perfectly safe and efficacious remedy.

EDWARD JOHNSON, M.D.

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Ninth Month (September), 1843.

THE

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AND SELECT FAMILY VISITOR,

FOR THE DISSEMINATION OF USEFUL KNOWLEDGE.

No. 7.—Vol. I.] TENTH MONTH (OCTOBER), 1st, 1843. [Six Shillings per Annum.

Reviews.

The History of China, Pictorial and Descriptive, from the earliest period to the present time. Part 5. By Miss Corner. London: Dean and Co.

Amongst the numerous nations who own subjection to the Imperial Sovereign of China, none seems more remarkable than the Meaou-tse, whose mountainous country and martial spirit have enabled them to continue independent from the remotest ages.

"Between the provinces of Canton, Kuang-sy and Kuei-chaw, are several ridges of hills, extending from three hundred to four hundred miles, inhabited by many different tribes of this race, who are quite distinct from the Chinese, whose government they do not acknowledge, and whose civilization they do not share. They are believed by some to be the aborigines of the country, as it is well known that the southern part of China was in a state of barbarism long after the north had been comparatively civilized; but how it happens that they have been permitted to remain unsubdued and independent has not been accounted for. But the mountainous nature of the region which they inhabit, and which gives them advantages over the enemy, may, with other causes. have tended to discourage all persevering attempts to subject them. They are governed by their own laws, and have their own princes; but it is remarkable, that in all the revolutions that have taken place in China, the Meaou-tse are never mentioned as having taken any part, nor does it appear that they were ever called upon to pay tribute. Their perfect independence of the Tartar government has been shown by the retention of their hair, which is allowed to grow over the whole head, and being of great length is tied up in the ancient Chinese fashion. They preserved their hair, and continued this mode of wearing it, after the Tartar conquest, when the vanquished Chinese were compelled to shave their heads in token of subjection. The Chinese consider them as a people totally different from themselves, in so much that in their maps they even mark off that part of the country occupied by them, as though it were inhabited by a foreign race. The intercourse of the Chinese with the Meaou-tse was sometimes of a friendly sometimes of a hostile nature; for, like most barbarians who dwell in the vicinity of a fertile country, the Meaou-tse were addicted to plunder, and would occasionally make incursions into the plains, and carry off such spoils as fell in their way; while at other times they pursued a peaceful traffic with the Chinese, who purchased their forest timber, which abounds on the mountains, but is scarce in the level country, where all the ancient forests have long since been cleared away, in order to afford space for the cultivation of rice and cotton, to feed and clothe the overflowing population. As the Meaou-tse do not allow the Chinese to enter their country, the latter make an agreement for a certain quantity of timber, which is then thrown into the rivers that intersect the hills, and floats down into the plains; the price being paid usually in oxen, cows and buffaloes; which are received by persons appointed for that purpose, when the wood is committed to the stream. Although the Meaou-tse are not subjects of the Emperor, yet every hostile incursion which they make against the Chinese is regarded by the latter as an act of rebellion. In the year 1771, one of the tribes made several marauding expeditions into the plains, and committed such extensive depredations, that a military force was sent to invade their mountain territories, the Emperor being resolved to subject or destroy their whole race. The imperial army entered the hills, which soon presented frightful scenes of bloodshed, for the people fought desperately in defence of their liberties; and so great was their dread of being brought under the authority of the Chinese government, that even the women were seen fighting in the common cause by the sides of their husbands. At length the Chinese general gained possession of the principal town, when the chief took refuge in a strong fortress at some distance; from whence he sent a deputation to the general, offering to acknowledge himself a vassal of the Emperor, provided he might be permitted to retain his territories and rule over his people as before. But the mighty monarch, bent upon crushing the liberties of the mountaineers, sent forth his imperial mandate, that the whole population should remove from their native hills to some distant part of the empire, where they might be kept in subjection, which they scarcely could be so long as they maintained the strong position they had hitherto occupied. The chief of the unfortunate tribe to whom this sentence of expatriation was far worse than death, collected his warriors around him, determined to resist to the last; declaring that he would rather perish on his native soil than rule as a sovereign in a foreign land. But a still more melancholy fate than either awaited the brave barbarian; for being at length made prisoner, he was conveyed with many other captives to Peking. when he was commanded to suffer an ignominious death, together with nineteen individuals of his family, who were beheaded at the same time with him; while all his people, men, women, and children, were dragged from their homes, and distributed as slaves through various parts of the empire. Still the Meaou-tse were not conquered; for although that one particular tribe was exterminated, there were others in different parts of the mountains, who soon after appeared in great numbers, and are still frequently engaged in hostilities with the Chinese who dwell in their vicinity."

The term Hong merchant, which is so familiar to the English ear, and so little understood, is explained in the number before us in a most satisfactory manner, like all the information conveyed in this popular work:—

"The latter part of the reign of Kien-long is remarkable for the first intercourse ever held between the courts of Great Britain and China; when an embassy was sent by his Britannic Majesty to the sovereign of the Chinese empire, under the following circumstances. Soon after his accession to the throne, Kien-long had established a company of merchants, called the Ko-hong, consisting of the principals of ten hongs or mercantile houses, who were invested with the exclusive privilege of transacting all business with Europeans; consequently the English, as well as others. were prohibited from dealing with any other Chinese traders, and were obliged to purchase their tea, silks, and other commodities of importance, from these Hong merchants, who fixed the prices of all goods either exported or imported, and regulated the terms on which foreigners were to conduct their trade with China. They were responsible to the government for the customs and duties on all goods brought in or sent out of the country, and they were also answerable to the foreign merchants for the value of their cargoes after they were landed; so that any losses sustained on either side were to be made up by them; yet their profits were so enormous, that they grew in general very rich, and lived in great splendour."

Some disputes with these Hong merchants occasioned the embassy of Lord Macartney in 1792, which was well received by the Emperor.

"The government yachts that conveyed the embassy up the Peiho were extremely handsome and commodious, but as the Mandarins had no idea that an ambassador could come for any other purpose than to bring tribute, and to do homage to the Emperor on the part of his master, they had caused flags to be attached to the yachts, displaying these words in large Chinese characters, 'Ambassadors bearing tribute from the country of England,' nor would they believe that the presents brought for the Emperor were to be received in any other light."

It may be surprising to our readers to learn that the Chinese never use butter or cheese, or even milk in their tea, so that two cows were procured with much difficulty, and were marched along in the train of the ambassador whilst he remained in China. Although our recent nearer acquaintance has proved that civilization and elegance have made a great advancement amongst the Chinese, yet perhaps the splendours of the Imperial court could not be shown to greater advantage at the present moment than they were exhibited to the ambassador, who was received by the Emperor at his summer palace of Zhehol, fifty miles north of the great wall, and at a considerable elevation.

"The palace and gardens of Zhehol are situated in a romantic valley, on the banks of a fine river overhung by rugged mountains. The park, which is very extensive, presents the most magnificent specimen of the Chinese style to be found in the whole empire; as the objects that are usually crowded together in too small a space to produce a pleasing effect. are at Zhehol distributed over a vast area, the imperial park being not less than eighteen miles in circumference, including the palace and gardens of the ladies, which are enclosed within a separate wall. The western side of the park is occupied with thick woods of oak, pine, and chesnut trees, covering the sides of the steep mountains, where a great number of deer are kept for the chase; but the rest is laid out in ornamental pleasure grounds, adorned with as many as fifty pavilions, magnificently furnished, each containing a state room with a throne in it, and some of them having a large banquetting hall, where entertainments are given on special occasions to the great Mandarins of the court. Among the ornaments of these beautiful pleasure grounds, are small transparent lakes filled with gold and silver fishes, and a broad canal on which are several islands, adorned with pagodas and summer houses of various forms, sheltered by groves of trees and fragrant shrubs. All Chinese buildings of this description are highly decorated, and generally bear some resemblance to a tent, which is evidently the model from which the architecture of China was originally designed. Near the palace of Zhehol, on the side of a steep hill, stands the magnificent temple of Pootala, the largest and richest in the whole empire, covering above twenty acres of ground, and built at an immense cost by Kien-long, who was a worshipper of Fo, for whose service this splendid pile was erected. It consists of one large temple or monastery, with a number of smaller buildings and pagodas attached to it. The great temple is an immense square, eleven stories in height; these stories being distinguished by galleries running round the four sides of the building containing the apartments of the Lamas or priests, of whom there were not less than eight hundred at the time of which I am now speaking, so munificently was the establishment endowed by its founder. In the centre of the great temple is the golden chapel, where the priests perform their devotions. It derives its name from its gilded roof, and in the middle is a small space railed off, in which, elevated by steps, stand three altars richly adorned, each supporting a colossal statue, said to be of solid gold, but of course only gilded. The Kotoue is in China the act of homage exacted from a vassal by his liege lord; and the same degree of importance is attached to it, as, in the feudal ages, belonged to acts of a similar kind in all European countries. It was therefore of material consequence that the ambassador should be firm on the point, which was at length given up by the Chinese; and the English party, escorted by a guard of Tartars and several Mandarins of rank, set out on their journey to Zhehol, where for the first time, an English noblemen was presented at the court of the most ancient monarchy in the world, and as he himself expresses it, beheld, 'King Solomon in all his glory.'"

The mission produced little impression on the emperor, though he wrote a very friendly letter to George III. but refused to allow British subjects to trade to various towns, such as Amoy, Ning-po, &c. which had been forbidden to them by an edict of Kien-long in 1755. However, several fraudulent practises were stopped at Canton, and the viceroy was removed.

The Combustion of Coal and the Prevention of Smoke Chemically and Practically Considered. By C. W. Williams. Illustrated with coloured Diagrams. London: Simpkin, Marshall, & Co. Dublin: Curry & Co.

We hail with pleasure the appearance of a book which promises to lay before us a plan, by which the rapid and wasteful consumption of coal will be diminished one half, and by which also a great addition will be made to the quantity of caloric or heat produced for economic purposes. The amazing consumption of our national mines of fuel, which have heretofore given such great manufacturing advantages to Great Britain, has not hitherto occasioned any inconvenience to the country in general, owing to the increased facilities which have been discovered for working out these precious depositories, but a time must come when such a diminution will affect our entire population, however vast may be those depositories. The coal field of Northumberland and its continuation is about fifty-eight miles long and twenty four wide.

"To form an idea, says Dr. Thomson, of the quantity of coal contained in the formation called the coal measures, let us suppose it to extend in length from north to south twenty-three miles, and that its average breadth is eight miles; this makes a surface amounting to rather more than one hundred and eighty square miles, or 557 568,000 square yards. The utmost thickness of all the beds of coal put together does not exceed forty-four feet; but there are eleven beds not workable, the thickness of each amounting to only a few inches. If they be deducted, the amount of the rest will be only thirty-six feet, or twelve yards. Perhaps five of the other beds likewise should be struck off, as they amount altogether only to six feet, and therefore are not considered as worth working. The remainder will be ten yards; so that the whole coal in this formation amounts to 5 575,680 cubic yards. I conceive that the quantity of coal exported yearly from this formation exceeds two millions of chaldrons, for the county of Durham alone exports one and one third millions. A chaldron weighs 1.4 tons; so that 2.8 millions of tons of coals are annually raised in these counties out of this formation. Now a ton of coal is very nearly one cubic yard; so that the yearly loss from mining amounts to 2.8 millions, or adding one-third for waste, to 3.7 millions of yards. According to this statement, the Newcastle coals may be mined to the present extent for fifteen hundred years before they will be exhausted. But from this number we must deduct the amount of the years during which they have been already wrought. It is also necessary to make a deduction of some centuries for decreasing thickness, as the thickest measurement has been taken, and also for the smallness of the upper beds, so that perhaps we cannot reckon on the probable supply at more than eight hundred years, with a continually increasing price, owing to the increase of mining expenses. Besides the coal exported to different parts of England, a large quantity is consumed in the two countries, which cannot easily be calculated. About thirty years ago, a practice was adopted at the pits, where the coal was of a fragile nature, of erecting screens to separate the small from the larger coal. This system is now become universal, and vast heaps of coal are thus raised at the mouths of the pits. These soon take fire from the heat of the decomposing pyrites, or sulphuret of iron, and continue to burn for several years. Not less than one hundred thousand chaldrons are thus annually destroyed on the Tyne, and nearly an equal quantity on the Wear. Two such heaps in combustion may be seen at present (1814) on the north side of Newcastle. If you travel from Berwick to Newcastle, and enter this last town in the dark, about three miles from the town you see two immense fires; one on the left hand, about three miles from the road, which has been burning these eight years: the heap of coal is said to cover twelve acres. The other, on the right hand, is nearer to the road, and therefore appears more bright; it has been burning these three or four years. Such an important waste, amounting to twenty per cent, or one-fifth of the whole consumption, of an article so essential to our commercial greatness, and of which we may already calculate the limited supply, calls loudly for timely legislative interference."

It is supposed that there are as many years consumption of coal in the central districts of England and Wales, but we must also take into account that Dr Thomson wrote the above thirty years since, and the consumption has increased in an alarming proportion, owing to the introduction of engines in manufactories, steam-boats, and on railroads. It is our opinion that the attention of parliament should be turned to the subject without delay, so as to prevent unnecessary waste. In this view of the subject we hail, as a national benefit, the appearance of the present volume. The eminent author, Charles W. Williams, has so worthily acquired the respect and consideration of every class of his countrymen for his successful exertions in improving the external and internal steam navigation of Ireland for the last twenty years, that nothing now remains for us but to introduce the book to our readers as one which will completely enlighten them upon the subject of combustion. The work is accompanied by numerous valuable diagrams of the atomic or original component parts of gases, both separate and in combination, and these being coloured according to a given scale, they show the mode of mixtures of the different gases at various stages of combustion in a very simple manner. The author describes the reasons which induced him to turn his attention to this branch of steam navigation economy, and thus expresses his opinion of the necessity of such a system of training for engineers, and of construction for boilers, as will attain the end proposed, and in these we sincerely concur:—

"The result of this long experience is the finding that, notwithstanding the improved state to which the construction and appointments of the hull and general machinery of steam vessels has arrived, great uncertainty and risk of failure still prevail in the department of the *boiler*, as regards the *use of fuel* and the *generation of steam* Much certainly has been done towards imparting strength to the boiler and lessening the risk of explosion. The most experienced engineers are, however, still unable to decide, *previously to trial*, either as to the quantity of fuel that will be consumed, or of steam to be generated.

"It is true, the engineer who undertakes the construction of the engines, also undertakes that the boilers shall provide a sufficiency of steam to work them; but what that *sufficiency* means, has not been decided; and, in too many instances, the absence of some fixed data on the subject leads to complaints and references, which, though they may end the disputes between the owners and makers of the engines, leave the evils of a deficiency of steam or a great expenditure of fuel, unabated. If there happen to be '*steam enough*,' the engineer's triumph is complete; although it is seldom that an account is taken of the quantity of fuel consumed, or whether it be attended with economy or waste. If with economy, the merit of the engineer is enhanced; but if with waste, the sufferers. having no redress, keep their grievances to themselves, and the leger account of fuel consumed, is the only index to the cause of that absence of profit, which is too often the usual result."

The work itself is arranged very scientifically, and thus lays down its own premises :—

"One important branch of the subject remains to be inquired into, namely, the operations carried on in that great alembic, *the furnace, chemically considered;* and the adapting its arrangements so as to give full practical effect to the several processes which constitute combustion. Taking these in their proper order, in treating on steam and the steam engine, the subject divides itself into the following heads—First, the management of fuel in the generation of *heat;* secondly, the management of *heat* in the generation of *steam;* thirdly, the management of steam in the generation of *power*. The first is in the department of the *furnace*, the second of the *boiler*, the third of the *engine*. The object of the present tract is the examination of the various circumstances connected with the generation of heat from fuel; in a word, all that pertains to the first of these heads, the furnace; the two others having already formed the subject of many able enquiries, by practical and scientific men. One subject contemplated in the following pages is, to disconnect this division of the subject from that branch of manufacture, *boiler-making*, with which it has too long been associated, and either take it out of the hands of the working bricklayer, and others employed under the mechanical engineer, or what I hope to be able to effect, convey to that class of persons such an acquaintance with the chemistry of the subject, as will qualify them for judging what is right or wrong in the management of fuel."

The leading feature of the essay is to show how *all the component parts* of the fuel may be consumed without waste, and this constitutes the value of the entire proposition :—

"In the following treatise I do not undertake to show how *the smoke* from coals can be *burned;* but I do undertake to show how *coals may be burned without smoke;* and this distinction involves the main question of economy of fuel When smoke is once produced in a furnace or flue, I believe it to be as difficult or impossible to burn it, so as to convert it to heating purposes, as it would be to convert the smoke issuing from the flame of a candle to the purposes of light; *and this assertion I make in the face of so many patents, from so many ingenious men.* If, indeed, we could collect the smoke and unburnt gases of a furnace, and separate them from the products of combustion which the flues carry off. they might subsequently be made instrumental to the purposes of light and heat; but that is impossible. When we see smoke issuing from the flame of an ill-adjusted common lamp, we also find the flame itself dull and murky, and the heat and light diminished in quantity. Do we then attempt to *burn that smoke?* No; it would be impossible. Again, when we see a well-adjusted Argand lamp burn *without producing any smoke;* we also see the flame white and clear, and the quantity of heat and light increased. In this case, do we say the lamp *burns its smoke?* No; we say the lamp *burns without smoke* This is the fact, and it remains to be shown why the same language may not be applied to the combustion of the same coal and the same gas, in the *furnace* as in the *lamp* Our object, then, should be to draw the same distinction and effect the same practical difference between our furnaces as they *ought to be*, and *as they are*, which we see between the Argand lamp and the common one. This treatise will. I trust, sufficiently show how this may be effected. and by correcting the imperfections of the old plan, lead us to another and a better one.

The advantage, not to say the necessity, of attending to the proper combination of the gases is evident, when we consider that the union of oxygen with nitrogen in different proportions, produces entirely different results. These two gases form atmospheric air, when united in the proportion of twenty-one of oxygen and seventy-nine of nitrogen. But one of nitrogen with one of oxygen forms nitrous oxide or laughing-gas, with two of oxygen it forms nitric oxide, with three of oxygen it forms hyponitrous acid, with four of oxygen it forms nitrous acid, and with five of oxygen it forms nitric acid or aquafortis, of which the destructive properties are so well known. The merit of the proposed system, of which this volume so ably and satisfactorily treats, is so clearly demonstrated throughout its pages, that we can only recommend the inquirer after this valuable knowledge to peruse the work for himself. We have room for a sentence or two more, but they will serve to illustrate the nature of the whole :—

"Air may be in *excess*, as regards its *effects*, though as regards quantity, it may be *below* the saturating equivalent required by the gas to which it is presented. Its cooling influence will therefore operate, not in proportion to the gross volume introduced, but to the inefficiency of its distribution. Air may be in excess, and always is so, in the furnace, when introduced in quantities beyond what is due to the surface atoms, or superficial stratum of gas which it *first* approaches. Neither can this evil be remedied by such excess *subsequently* meeting with gas requiring such oxygen or air. The mischief is done by its cooling influence on those atoms which do *not* come into contact, and which, being at once reduced below the temperature of ignition, are paralyzed in their action. Thus, air, when in excess of the absorbing faculty of the gas it encounters, instead of engendering heat, produces cold. The result is, that both are negative, or lost, to the operation of the furnace."

The plan by which perfect combustion is to be obtained, is to admit the air by a number of jets, or numerous small divisions, arranged on fixed principles, so that every particle of the combustible material of the fuel shall meet with a corresponding particle of matter, and so unite with it, and leave no residuum to pass off either as gas or smoke. This will produce the largest quantity of heat with the smallest quantity of loss. The following extracts from letters to the author very simply explains the theory and practise :—

"When air is admitted in front of the furnace, or through or over the fuel, it obviously never can effect those useful purposes which are at once obtained by admitting it in due proportion to the intensely heated inflammable vapours and gases, or in other words, to the products of the distillation of coal, at such temperature that they may take fire in its contact. In this way, each jet of air which you admit becomes, as it were, the source of centre of a separate flame, and the effect is exactly that of so many jets of inflammable or coal gas ignited in the air; only, in your furnace, you invert this ordinary state of things, and use a jet of air thrown into an atmosphere of inflammable gas, thus making an experiment upon a large and practical, which I have often made on a small and theoretical scale, in illustration of the inaccuracy of the common terms of *combustible and supporter of combustion*, as ordinarily applied. I fill a a bladder with coal gas, and attach to it a jet, by which I burn a flame of that gas in an atmosphere of, or a bell glass filled with, oxygen; of course, the gas burns brilliantly, and we call the gas the combustible, and the oxygen the supporter of combustion. If I now invert this common order of things, and fill the bladder with oxygen and the bell glass with coal gas, I find that the jet of *oxygen* may be inflamed in the atmosphere of *coal gas*, with exactly the same general phenomena as when the jet of *coal gas* is inflamed in the atmosphere of *oxygen*. This is precisely your process. You admit a number of jets of air into a heated inflammable atmosphere, and so attain its combustion in such a way, as to produce a great increase of heat, and as a necessary consequence, destroy the smoke. You, in fact, convert what is commonly called smoke into fuel, at the *time when*, and *place where*, this combustion can be most effectively brought about."—*Professor Brande's Letter to the Author.*

"In the case of great steam-boiler furnaces, since these are fed at short intervals, your plan of distributing atmospheric air, in a regulated quantity, by numerous jets, through the body of the gasiform matter, is peculiarly happy, and must extract the whole heat which the combustible is capable of affording, and your mode of supplying atmospheric oxygen will prevent the possibility of the carbon of the coals escaping in the state of *carbonic oxide gas*, whereby at present much heat is lost to our great furnaces."—*Dr. Ure's Letter to the Author.*

The extent to which economy may be practicable in the combustion of coal without smoke, has been prominently brought forward by the appointment of a select committee of the house of commons at the close of the last session, and before whom the most scientific and practical men of the day were examined. We would here also observe, that independently of the chemical opinion given by Dr. Ure, and other chemical authorities, in reference to the work before us, J. Holdsworth, of Manchester, one of the largest and most scientific manufacturers, stated that it was just such a work as was desired by practical men, who could not themselves go into the chemistry of combustion, and in that respect was a valuable addition to their knowledge on a subject which was little understood by them. Although the report of the committee is short, yet we have not room for it in our present number, but propose to give it in the next. It has just arrived.

Geology and Revelation in perfect harmony. An Essay. By John Watson. London: James Dinnes.

[Second Notice.]

We hold the sacred character of truth in too much respect to believe that religion or science can be injured by the enunciation of *fact*. To hold a contrary opinion would be to lower the standard of truth, to propagate absurdity, to mystify reason. With this view of the subject we have examined this treatise with the more satisfaction, because it attempts to reconcile truth with truth, and not truth with error. Besides this, if our author fails in substantiating his proposition, the truths of

Scripture and of geology remained uninjured. The chief force of the argument lies in the question, were all things created out of *nothing* at the arrangement of the present system mentioned by Moses? Most of the Scripture commentators declare that they were created out of nothing, and bring forward in their support a sentence in itself somewhat obscure, the third verse of the eleventh chapter of the Epistle to the Hebrews, "Through faith we understand that the worlds were *framed* by the word of God: so that things which are seen were not made of things which do appear." The word which is translated *framed,* occurs frequently in the New Testament, and it never signifies created out of *nothing,* but always formed out of things which existed before. The explanation of this word is very clearly set forth in the present work:—

"The first word in the passage under consideration which expresses action, as has been already remarked, is the one translated *framed;* and it literally means to place the parts of anything which has been broken, or otherwise injured or disarranged, into their proper order; and hence it means to set a broken bone, to reduce a fracture, to mend, to repair, to join together, to dispose, to arrange, to finish, to complete. These are its meanings in classical Greek. In the Hellenistic Greek of the New Testament the word occurs thirteen times, and always with a similar meaning. Matthew and Mark use it when speaking of James and John being found 'mending their nets.' Paul himself, in writing to the Romans, uses it when he speaks of the 'vessels of wrath fitted for destruction;' and also in writing to the Corinthians, 'that ye may be *perfectly joined together;*' and to the Galatians he says, 'If a man be overtaken in a fault, ye that are spiritual *restore* such an one.' Wherever it is found, it means to bring a more complete or perfect state of things out of that which is incomplete or imperfect; and yet with this fact before them, most of the commentators insist that in Heb. xi. 3, the word *katertisthai must mean to create out of nothing.* As we have already seen, it is said that such an interpretation is rendered necessary by the evident meaning of the latter clause of the verse. Let us examine it, and see if such a necessity exists. The latter clause reads thus, 'so that things which are seen, were not made of things which do appear.' If our translators had kept the negative particle of this clause in its natural and proper position, the meaning of the Apostle would, perhaps, have been more apparent. The passage would then have read, 'so that out of things *not appearing,* things seen were made.' Now mark the words of the Apostle; he says, 'out of things *not appearing,* things seen were made;' but, to give countenance to the opinion of the anti-geologist, it ought to have been, *out of things not existing;* this, however, the Apostle has not said, and no one can fairly come to the conclusion that he meant to say so."

Much substantial proof is advanced in the succeeding pages to prove the writer's assertions to be *classically* just. We recommend all who feel interested in the subject to procure the work for themselves, as it would be impossible to devote more of our present number to the notices.

The Scriptural quotations in the form of *words,* to show the view which the translators took of the original meaning of many Hebrew and Greek expressions, have been happily selected by the author in support of his theory, in such a simple manner, that those entirely unskilled in geology can comprehend their force.

Literary & Scientific Meetings, &c.

BRITISH ASSOCIATION.

As the general notices of the proceedings of this learned assemblage, which met this year in Cork, have been presented to the public in various newspapers and journals, we propose to give some account of the geological proceedings in a more detailed, and therefore, more satisfactory form than they have yet appeared, as they have been kindly and exclusively furnished to us for the benefit of the readers of our Journal, who we believe will take much interest in them.

PROCEEDINGS OF THE GEOLOGICAL SECTION OF THE BRITISH ASSOCIATION.

Friday, Aug. 18, 1843.

This section was held in the City Court House, and was presided over by **Richard Griffith**, Esq. F.R.S.E. &c. Author of several statistical works on Ireland. On taking the chair Mr. **Griffith** said that the committee had done him the honour to ask him to preside over this section, the duties of which he felt himself totally inadequate to discharge, and would much rather they had chosen some gentleman better qualified for the office, such as those distinguished geologists on his right and on his left, who had been all over the world, and one of whom had only just returned from America, and the other from Poland and Russia; but he believed the principal reason for placing him in this distinguished position was because he was the author of a general map of Ireland. The learned gentleman then entered upon an explanation of the benefits to be derived from geological researches, and concluded by stating the nature of the papers to be read, and who they were to be explained by.

Professor **Lyell** having been called upon by the Chairman, came forward and said he had been selected by the President to explain one of the illustrations then exhibited upon the wall of the Court, and which he was glad to have the opportunity of doing, as it was not done at Manchester. The paper was merely read, but it could not have been understood, owing to the absence of the illustration. The authors of the paper upon the phenomena and theory of earthquakes were Messrs. William and Henry Rogers, engineers in the employment of the American government, and one of whom had been engaged to survey the state of Pennsylvania, and the other that of Virginia, each of which occupied an area equal in size to the whole of England. The chain of mountains represented by the section was called the Appalachian and Allegany chain, it extended from Lower Canada to Alabama, and was about one thousand two hundred miles in length. The breadth of the Appalachian chain (which was the Indian name for it) averaged about one hundred miles, and many of the mountains rose to a height of seven thousand feet above the level of the sea. He (Mr. L.) was very desirous it should be understood that whatever opinions parties might have formed, or whatever ideas they might have, of the theory of the formations of such masses of matter as the section represented those mountains to be composed of, they would at all events bear in mind that the Messrs. Rogers were the first to discover that law of strata peculiar to this chain, for there never before was a chain of mountains discovered to which so simple a law could be made to apply to the whole chain throughout. Here the learned gentleman pointed with a rod to the section, and pointed out the peculiarities of the formation of the different strata from the Atlantic border on the west to the extensive eastern boundary of the chain. On the eastern border the oldest silurian rocks occur, in which he described seven different members of them; next it contained two divisions of Devonian rocks, and three members of the coal series. On the east, and near where great geological disturbances took place, the coal was crushed into soot; in the west end of the section the coal lay stretched out in level strata, and was very good, and existed in immense fields, which he said possessed to the highest degree of perfection all the bituminous qualities of the Newcastle coal, and the area those fields covered was nearly as large as Wales. Having concluded his description,

Mr. **Strickland** read the paper which the section was an illustration of, and which Mr. Lyell had been describing.

Mr. **Hopkins** described at great length the manner in which he conceived the irregularities on the surface of the earth were caused. He observed that the undulations in the earth's crust, in earthquakes, consisted of a wave-like motion of the ground. At Hayti, 7th May, 1842, the houses rocked to and fro, the hills viewed from the sea appeared in motion; this was sudden and quick, as if near some deep-seated cause. 4th Jan. 1843, at the Mississippi, eight hundred miles of country were affected; the shock was violent enough to excite surprise—it was observed at twenty-seven stations, and was simultaneous. The waves were propagated from a central line, east and west, which produced an elliptical area of undulation. This billowy pulsation, or heaving, oscillated perpendicular to the line of propagation. The pulsations round a volcano would be circular—round a line would be elliptical—where shocks extend over a length of three thousand miles it furnishes a strong argument for central heat and fluidity; on water those shocks were propagated in broad waves. The sea-waves struck Antigua eight hours after the shock, which shows that the wave travelled five miles per minute. The tremor and sound in earthquakes are owing to the cracking and slipping of the rock, which takes place in the crust of the earth at the time of the shock. Much detail is still necessary to clear up the phenomena of anticlinal lines; some of them are parallel for twelve hundred miles in length—this in itself is a very important thing. Suppose a portion of the earth's crust, which is of solid rock, to be horizontal, with a fluid below; this fluid and rock by heat acquires expansibility, and then its second stage would cause the solid rock to form a curve upwards, being pushed up by the curved surface of the water in its expanded form. The ends are attached, and in the centre the arch must be extended, and fissured in consequence of the elevation. This bent crust cannot be packed back again; injected matter fills the interstices and hardens. Again, suppose two dikes, or walls of stone, inclined to each other, dividing a portion of the earth's crust into blocks; consider the action of an expanding power on the base—it will have the effect of elevating the blocks; the actions on the lower surface would be in proportion to the area exposed. This jamming would increase the length of the whole; the lowest side is always to the dip of the dike or fault, a law observed by Professor Phillips—those anticlinal ridges must have had elevation—it is by subsidence they get the convolutions in the descent. If the subsiding mass be of sufficient extent there must be waves; if five hundred feet of elevation require one minute, the wave would be thirty to forty miles in breadth; a force propagated in solid matter would produce a jar—in fluid matter a wave. The fluid mass below is not continuous; it exists in form of lakes, or else all volcanoes would be in action together. The solid crust of the earth must be at least one-fourth of its radius—ten hundred or twelve hundred miles; those waves could only be produced on a thin crust. Mount Etna is situated upon a lake; if Vesuvius and Etna were connected below, they must overflow together, and all the smaller ones be going at the same time; there can be no free communication below, and there must be pools.

Professor Phillips was happy to have heard from Mr. Lyell such a clear explanation of the Appalachian chain; he was glad also that mathematicians were turning their powerful talents to the subject of anticlinal undulations. With reference to the section exhibited, many things now in the British Islands are corroborated by this section. In examining it, the left side is remarkably flat; in the right, the strata are remarkably curved. It is the same in South Wales, which has been lately examined with extreme care by Sir H. De la Beche; the east is gentle—the west violent; and this structure is probably prolonged into this same country where we now are. The alteration of the coal into culm is remarkable in districts where the strata have been much disturbed. Coal by the contact and action of air and water becomes anthracite; this is caused by the breaking up of the strata, and the escape of volatile matter. The law of parallelism in anticlinal ridges is also a subject of great interest. The axes of the curves in moved ground are usually parallel in sets; some are in straight lines, some in curves, and some mixed, or made up of both. In South Wales, all these connections are cotemporaneous.

Major Clarke, having seen the eruption of Vesuvius in 1822, observed, that that great eruption had suppressed the minor one of Solfa terra.

Mr. Murchison charged Professor Phillips with being the great delinquent last year, and caused Professor Rogers's paper not to get the attention it deserved, on account of his being absent.' He said, that the lake of two volcanoes, in the same vicinity, might communicate below, and yet a choked volcano prevent the action being visible in both at once.

Mr. Strickland then read a description of the late earthquake at Antigua. There were eight persons killed; mills were destroyed, graves and headstones tossed about, barracks destroyed, and the loss of property immense. Sulphureous acids were blown about, and many trees wholly or partially blighted. The volcanic action is not so great since May, 1842, but still the inhabitants of the houses sleep with their doors open, that there may be no delay to their running into the open air in case of a shock.

Mr. Griffith delivered the following observations on Erratic blocks.—If we look to the distribution of erratic blocks as indicative of the duration of the currents by which they were distributed, we find in Ireland, generally, that they were carried from N.W. to S.E. though the current was often modified by the opposition of mountain ridges.

In this general view, I do not wish to impugn the glacier theory in certain localities, in the formation of moraines, along the bases of mountain ranges; but in such cases the moraine should be composed of matter similar to that of the mountain whence it is derived.

Many examples of moraines occur in Donegal, Derry, and Tyrone; but I am not aware, except very partially, of their occurrence in other mountain districts. The prevailing component of our drifted matter is rolled limestone and clayey matter, derived from one great limestone field, which occupies two-thirds of our island. This matter is seldom stratified—it is a heterogeneous mass of large and small rounded pebbles of limestone, intermixed with clay, fine gravel, and sand, and rarely siliceous sand.

This mass, often exceeding one hundred feet in thickness, pervades all our valleys, and even the interior of some of our mountains to a considerable height; it occurs either in one thick mass, resting on the rock, or in the form of eskers. The prevailing direction of our mountain ridges is N.E. and S.W. at right angles to the supposed direction of the current, namely, from N.W. to S.E; as might be expected, we find the gravel banks and detritus distributed on the N.W. declivities of the hills, and intruding into the interior valleys; I may instance the Cambrian slate district of Armagh, Cavan, Monaghan, &c.

In some instances, in the granite and slate districts of Wicklow, as in the valley of the Slaney, the limestone gravel has passed through the valleys of the mountain range, and has formed a deposit of limestone pebbles, eastward of the range of Mount Leinster, and spread over the Cambrian slate to the neighbourhood of Newtownbarry in Wexford.

Similar facts may be observed in the Slievebloom mountains as well as the Galtees and Monavoullagh mountains, of the counties of Limerick and Waterford.

Limestone gravel is found on the western declivities, and in the valleys of the mountain ranges mentioned, but none has been observed on the eastern declivities. We would hence infer that where the mountains were of sufficient height, the currents were interrupted, and the gravel did not pass to the eastward.

The summit of Baltinglass hill, in county Wicklow, is 1256 feet above the sea; east of this there is no gravel, while it is abundant on the lower hills and valleys southward. It is also on Spinan's hill, north of Baltinglass hill, at 880 feet high; we may assume that the transporting force did not exceed an elevation of 1000 feet.

I shall not enter upon the consideration of whether currents of water or floating ice may have been the transporting medium, but there is a probability of its having been floating ice, at least in some cases. The glacial theory of Agassiz is not applicable, where the transported materials are elevated to a higher level than the parent rock.

On the top of the gravel deposit, and independent of it in many localities, are found boulders of granite, and red and light grey conglomerate, scattered over the surface of the country, but rarely if ever included or intermixed with the gravel or sand lying below. Owing to a peculiarity in the composition of granite of certain districts, it is not difficult to detect the locality from which each was derived; hence, I have no hesitation in saying, that I have found small boulders of the granite of Cunnemara in Galway, and east of the Slievebloom mountains, in the line of the valley of Roscrea. Similar boulders, but larger, occur in the King's county, and also in the limestone district of Galway, indicating that the direction of the line of transport was from N.W. to S.E. through a very large portion of Ireland; this, however, is not general.

In the county Sligo are two ranges, the Ox Mountains and the Curlew Mountains, which have nearly parallel directions; the Curlew range being about twelve miles south of the other.

By reference to the geological map, it is seen that the Curlew range consists of reddish-brown sandstone, connected with the upper silurian system, and that the Ox Mountains are composed of mica slate and granite, the former predominating, and that the country, both north and south of both ranges, is composed of rocks belonging to the carboniferous system.

In the limestone district, south of the Curlew Mountains, the gravel-hills consist of limestone solely, and in a northern direction the gravel-banks extend up the southern slopes of the hills of brown sandstone, where numerous pits have been opened to raise the limestone for manure.

Ascending the ridge of the Curlews, we find numerous boulders of yellowish-grey sandstone scattered on the surface. Passing over the summit, and descending to the northward, into the low grounds about Ballymote and Tobbercurry, the surface is thickly covered with boulders of reddish-brown sandstone, some of them weighing several tons, the largest being nearest to the Curlew range. On approaching the base of the Ox Mountains the red boulders are still numerous, but diminish in size.

Ascending the mica slate ridge of the Ox Mountains, we still find small boulders of the same sandstone, together with small eskers of limestone-gravel in some of the valleys. These eskers are remarkable, owing to their forming ridges directly across the valleys. This is particularly the case in the valley of Lough Easky, situated in the middle of the mountain range. To the north and south of this lake, the rock is mica slate, but at the lake there has been an extensive protrusion of large grained crystalline granite, composed of flesh-red felspar, white felspar, grey quartz, and black mica, the mica slate being metamorphic, along the line of contact.

In the line of the road to Easky, two miles south of the lake, the valley is crossed at right angles by two eskers of rolled limestone, varying in size from one to three inches in diameter, mixed with small grains of limestone and a little clay.

The declivities of these eskers are steep, as usual, and their height may be about thirty feet; their elevation above the limestone plain to the south, whence the limestone of the eskers appears to have been derived, is two hundred and fifty feet. It is remarkable, that numerous large boulders of mica slate, exactly similar to the rock of the district, are strewed over the surface of these eskers, but none of them are intermixed with the gravel.

Approaching Lough Easky there is an elongated sinuous esker, nearly parallel to the line of the valley. This differs in its composition, as well as direction, from those just described. It is composed of pebbles of quartz and mica slate, intermixed with siliceous sand and brown, the whole being evidently derived from the adjoining mountain. Here is a moraine which may be accounted for according to the hypothesis of Agassiz; and so may also the boulders of mica slate, which cover the eskers already mentioned, but not the eskers themselves.

Following the valley from Lough Easky to the sea shore, beyond the village of Easky, for ten miles, the surface of the limestone country is thickly strewed over by large boulders of granite, some of which, close to the sea shore, are of enormous dimensions, and one, which is cleft through the centre, contains 1360 cubic feet, equal in weight to 100 tons; a mass which it is difficult to conceive could be moved by water, unless in the form of ice.

The granite of these boulders is identical with that of Lough Easky, and we must suppose that they were derived from that source.

The boulders along the whole line of coast westward from Easky, to Erris in Mayo, which are numerous and large, are composed of granite. A few rolled blocks of metamorphic mica slate may occasionally be observed, but not one boulder of limestone, though the entire district is composed of carboniferous strata. It may be observed that these granite boulders are precisely similar in composition to the granite of Lough Easky, Lough Talt, and Foxford.

Taking all these facts together, namely, the boulders of brownish-red sandstone, covering the surface of the limestone valley between the Curlew and the Ox Mountains, the Ox Mountains containing eskers of limestone gravel, evidently derived from the limestone valley of the south, and the granite boulders of Easky, and of the north coast of Mayo, derived from the Ox Mountains, we must arrive at the conclusion, that, at least in the localities mentioned, the current must have been from the S. and *not* from the N.W., as has probably been the case in other districts of Ireland.

The subject is one of difficulty, and one on which I have not bestowed much attention, and I have only brought it forward with a view to discussion in the section.

Mr. **Hopkins** made some observations upon Mr. Griffith's theory, and contended that the drift could be accounted for either by the aid of powerful currents, floating ice, or glaciers. He said that glaciers could not move at right angles to the ridges. If a current were produced by active elevation, the effect would be to transport the gravel at right angles to the ridges.

The **Chairman** soon after closed the discussion for the day, observing that the lectures, so far, upon these interesting subjects, geology and physical geography, should be looked upon as possessing matter of the greatest importance to science.

The different lectures were listened to throughout with great attention by an audience of ladies and gentlemen not very numerous, but very select.

(To be continued.)

INSTITUTION OF CIVIL ENGINEERS.

The following Paper was read at a numerous Meeting of the Members of the Institution of Civil Engineers, Great George-street. Westminster, on June 27th, 1843, and a vote of thanks was unanimously accorded on the occasion.

"On the present state of the Streets of the Metropolis, and the importance of their amelioration, by the President of the Practical and Scientific Association, for the promotion of Improved Street Paving, Cleansing, Drainage, &c. Vere Street, Oxford Street, London."

It is the object of the writer on the present occasion to adduce facts, and submit for consideration the opinions of others, rather than those of his own; at the same time to suggest that abundant means are available for improving the public highways, in preference to undertaking the charge of particularizing the most eligible methods to be adopted for accomplishing this very important end.

If, however, there are those who, from want of mature reflection on this subject, or who deem it one undeserving of their consideration unless it have received the sanction of men in authority; it may be then necessary to remark, that the present Government formed a commission in November last, consisting of several distinguished persons, "for enquiring into and considering the most effectual means of improving the Metropolis, and of providing increased facilities of communication therein."

In a Report, dated June 11, 1838, of a Committee of the House of Commons, on the public highways, it is urgently recommended, "That an institution should be formed for this purpose, under which the necessary experiments might be tried for ascertaining the best mode of forming roads, and the best means of keeping them in repair. That such great objects would add millions to the national income, and increase the comfort of every individual in the kingdom, whilst a great and permanent institution would take a just pride in accomplishing some of the greatest benefits that could be conferred on the country."

In taking a review of the history of the construction of the streets of London, it will be found that it is scarcely more than 20 years ago since the whole of them were exclusively formed of stone paving. The system then, as at present, was to imbed the stones in the earth by means of mere manual strength, although of late years the aid of grouting has been occasionally brought into use. The power conducing to the wear and tear of such streets was so considerably greater than the power employed in their construction, that as a natural consequence they were speedily out of repair. The advantages of having a good foundation for such paving appears to have continued unheeded. In this latter respect the circumstance is precisely similar as respects the foot-pavement, the contractors or masons seeming to treat this point as one of indifference. So long as the interstitial faces of the flags are well covered by mortar, and the work when completed, presents an uniform surface, the objects aimed at appear in their estimation, to be fully accomplished. Experience however, shows that the unevenness and unsoundness of the foundation soon conduce to a disarrangement of this pavement. At this period a considerable quantity of water speedily penetrates underneath in wet weather, and, accelerating the destruction of the substratum, leads to the formation of mud, that oozes out in abundance on the surface, and which in too many instances, is attributed to the dirt created in the carriage-ways.

The system introduced by Sir J. **Macadam** for forming the public roads, has subsequently superseded the loudly-complained-of stone-paving. The comparative smoothness of its surface when completed, (although its state of completion is very difficult to define!) and diminution of noise from the passing vehicles, induced the public to hail it as a great benefit and improvement, regardless of the increased quantity of mud produced thereby in wet weather, and alike indifferent to the cruelty inflicted on the horses, at the *expense of whose feet*, combined with the crushing influence of the carriage wheels, were the surfaces of these roads thus singularly constructed.

There appears to be, up to the present period, not the slightest alteration in the method originally adopted for making Macadamized roads. The inventor seems indifferent to the advantages which a judicious employment of a little mechanical skill would realize, as well as to the benefit which would result from a proper combination of materials, aided by a slight knowledge of chemistry and the law of physics.

Within the last five or six years various other methods have been experimented upon and adopted, for forming the carriage-ways and foot-paths, the most important of which consist of wood, asphalt, and even of a caoutchouc-preparation; whilst a variety of means and ingredients, which have been brought under practical illustration, might be very beneficially employed in modifying the present system of Macadamizing the roads. Carriage-ways made as at present, from a preparation of asphaltum, are far from being successful, although this method answers admirably for foot-pavement, and causes the surface to be at all times much cleaner and drier than stone.

Wood-paving appears likely, from the successful trials which it has undergone, to be in very general adoption. Within the last two to three years no less than one hundred thousand superficial yards have been laid down in the streets of the Metropolis, whilst the only objection made to it, is, that it is unusually slippery in wet weather. This evil it is fair to presume may be distinctly traced to the mud so improperly allowed to remain on the pavement, as any kind of road, the surface of which is hard and even, would always be slippery if the greasy dirt of London were permitted to remain upon it. On account of the alleged slipperiness this mode of paving has been generally condemned by parochial authorities in streets of rapid ascent, although it has been proved to answer, and free from this defect, opposite St. Giles's Church, where the acclivity is very considerable, and the surface of the pavement is allowed, by the negligence of the vestry, to remain in an extremely dirty state. One would have thought, that if one description of street or road stand more than another in need of wood, or some such paving, it is that which possesses a rapid declivity; as at present during the heavy rains, the sur face of Macadamized roads is constantly washed away, and worn into ruts, choking up the sewers with mud, creating danger to the passengers on horse-back, and in carriages, and entailing an unceasing drain on the parish funds.

Surely, if the surface of a steep road can be made of a material which is not easily disarranged by, or soluble in water, it is a desideratum which parochial authorities ought not to treat with so much apparent indifference. Under any circumstances it at least merits some inquiry as to whether it be practically attainable. In all other respects wood appears an incomparably superior material to every description hitherto employed for making roads; whether as regards its general economy, its durability, facility of traction, the effecting of repairs, comfort in driving over it, and, more especially, with respect to its extreme cleanliness. Although too generally supposed that stone for paving is more durable than wood, experience proves it to be the reverse. Where wood-paving has been laid down in London in juxta-position with stone, the latter has been repaired several times, when the former has scarcely needed any repair whatever. This arises from the abrasion on wood-paving being less, in consequence of its elastic and fibrous properties, whilst stone-paving is friable and unyielding. At Toronto, in Canada, it appears, on the evidence of Mr. Buckingham, that six miles of the public highways are continuously made of wood-pavement, consisting of planks one inch in thickness, laid transversely on the carriage-ways and longitudinally on the foot-paths; that these wooden roads have been in use for several years, and neither cost in their construction nor for repairing them, one-half of the expenses incurred by Macadamized roads.

Great alarm possessed the public mind at one period, with respect to wood-paving, lest it should speedily decay; and although it is a *lamentable* fact that the knowledge of the leading causes of corruption in wood is very imperfect, yet experience shows that wood, if sound when employed as pavement, is by no means likely to decay. Much might be stated on this head, whilst it is important to remark, *en passant*, that water, which by many is looked upon as prejudicial to the properties of wood, is however admitted, by those capable of forming correct opinions on the subject, as rather tending to preserve it. Wood suffers only in connection with water from the alternated state of wet and dry. A very interesting principle has of late been started, greatly canvassed, and very favourably received, bearing on this important question. This refers to the vibratory motion produced in wood-paving by the horses and vehicles passing over it, which is very generally supposed to interrupt the process of decay.

It is impossible to dwell too strongly on the importance of efficient cleanliness of the streets. At present they are either streams of mud in wet weather, or clouds of dust in dry; bemiring the public in one instance, or surcharging their lungs with pulverized granite in the other; carrying with them consequences prejudicial to their health, comfort and cleanliness, as well as to their finances, through the destruction of their apparel. The foregoing evil, it is to be hoped, will be speedily diminished in consequence of the valuable facts having from experience been arrived at, "That the oftener streets are cleansed, the less is the mud which is created and removed, whilst the attendant expenses are by no means increased, and the roads are kept in better preservation."

The following calculation, made by the municipal authorities at Manchester, is a happy illustration of the benefits and economy which attend on a more frequent and efficient cleansing of the streets. The machinery referred to is invented by Mr. Whitworth, a talented member of the useful and distinguished Institution of Civil Engineers.

		Number of Yards swept.	Number of Loads Removed.	Aver. No. Yards Swept to a Load.
District Swept by Machine Three times per Week.		5500000	1285	4338
By Manual Labour.	Twice in 3 Weeks — Township 1841-2	5500000	6400	859
	Once a Week. — Township 1838-9	5500000	17000	343

The extent of surface swept, it will be perceived, is the same, although not the extent of streets, arising from the more or less frequency of sweeping over the same surface; so that by cleansing the streets with the machine *three times a week*, the quantity of mud produced on the surface is *five times less* than when they were swept *twice* in *three weeks*, and *thirteen times less* than when swept but *once a week.*

By reference to the diary kept by Mr. Whitworth, since his machine has been daily employed on the wood-pavement in Regent-street, between the Quadrant and Oxford street, it is recorded that he commenced operations on the 11th of March last. *Twelve loads* were removed the *first day.* On the 29th March the quantity was reduced to *five loads daily.* On the 11th April *to three,* and continues on the average at this amount; the dirt now collected consisting entirely of the droppings from passing cattle. One machine has been employed five hours and three quarters each day, and 3,300 yards were swept per hour. The quantity of dirt is therefore so considerably diminished by the daily operation of the machine as to require a surface o 6,325 *yards* to be swept, and *one hour fifty-five minutes of time,* in order to produce one single cart load, which, on a Macadamized road, swept but once a week, could be obtained in *five minutes,* and from a surface of 343 *yards* only.

A light machine will shortly be employed during the day, to collect the manure before it is scattered and trodden hard on the surface of the road. The operation of street-cleansing will be greatly facilitated thereby, and the pavement kept cleaner and better preserved, whilst the manure will be rendered more valuable, and is expected to repay the expense for collecting it. It is fair to look forward to the enterprising and ingenious inventor, calling to his aid the inexhaustible power of steam in the application of this useful machine.

Hopes may fairly be indulged in, that notwithstanding the excellence of the present contrivance, many improvements will result therefrom, when the ingenuity of the public is properly stimulated and directed toward this object. Other methods for removing the dirt have already been devised and successfully acted upon. Mr. Roe, Surveyor of the Holborn and Finsbury Division, and Captain Vetch, of the Royal Engineers, are confidently of opinion that a good system of sewerage, aided by a sufficient supply of water, will, in most localities, be sufficient to remove all the dirt which arises in the streets, *without the necessity of cartage,* and also all the filth of private dwellings.

These gentlemen think it is highly probable that at present *more than one half of the whole mud* is carried off by the rains *through the sewers.* Mr. T. L. Donaldson, Chairman of the Metropolitan Commissioners of of Sewers for Westminster, and part of the County of Middlesex, says "The average charge of cleansing within the last ten years in the Westminster Sewers, has been £1,000 per annum."

It is fair to presume, from the evidence of eminent authorities, that if *one half of the mud* created in the streets is washed by the rain down the sewers, and the annual expense of their cleansing is £1.000, the amount would not exceed £2,000, were *the whole of* the mud disposed through the same channel. Abundance of water might be supplied by the different companies, at an expense very considerably less than that which is incurred by the present imperfect system in use for cleansing the streets.

It is deeply to be regretted that the policy which governs the municipal and various parochial authorities on this important question, is so extremely short-sighted. Their great anxiety is to reduce the annual expenditure to as small an amount as possible, so that the streets are, on the average, only cleansed from once and twice a week to three times a fortnight, at a medium expense of from 3s. to 5s. annually per house, or 4d. to 7d. per head; whilst there is not a house-keeper or single individual who does not, in consequence, lose as many pounds from dust and dirt of the streets, as he is saved shillings under these reduced rates.

After a patient and ample inquiry, it is found that shopkeepers lose, according to the size of the shop and materials exposed, from £30 to £300 a year. Mr. Mivart, the proprietor of one of the largest and most respectable hotels in London, loses, on a very moderate computation, from dust and dirt, £865 per annum,—whilst he pays annually for cleansing the streets, about 232 pence.

The public are scarcely prepared to believe the extent of the evils resulting from dust and dirt, but all doubt on the subject will be speedily removed on a little trouble being personally taken to make a brief inquiry on the subject; indeed there is not a single person who walks the streets and expends annually £20 for clothing, &c. but may attribute £5 loss at least to dust, dirt and mud.

If the streets were, in the first instance properly made, both with regard to the material employed and the form of surface, kept in efficient repair, and thoroughly cleansed, there does not appear any feasible reason why one could not pass through them after the heaviest shower of rain, without the fear of soiling the person, or being exposed to the danger of having wet feet. At present when the latter evil is experienced, it arises from the quantity of dirt on the surface of the streets, which retains the water, and so affords every facility for its causing the leather to be saturated, and the feet to be wet.

Few questions are more deserving of the serious attention of the philanthropist and the lover and promoter of social harmony and social improvement. If cleanliness within doors contribute so much to the comfort and health of the people, elevating and refining at the same time the public mind, it is no less essential to preserve the same advantage without, since streets and roads are the medium through which all inter-communication must take place; and more particularly is it essential, as the internal dirt of every domestic establishment is chiefly, if not exclusively, traceable to the streets. And it by no means becomes a very doubtful question, why they should not be preserved as *clean* aud as *pure* as the interior of the houses themselves.

This is a subject on which much might be said without exhausting its numerous advantages, but the length of this paper points out the propriety of a speedy conclusion; whilst the writer hopes that he will be excused for the time occupied in its perusal, being under the impression that the question presented for consideration most seriously affects the comforts, the happiness, and the grade of civilization of the community at large.

Institution of Civil Engineers,
25, Great George Street,
June 28, 1843.

Sir,—I am directed by the Institution of Civil Engineers, to acknowledge the receipt of your paper "on the present state of the streets of the Metropolis, &c." which was read at the Meeting of June 27th; and to convey to you the thanks of the Institution for this mark of attention to its interests. I have the honor to be, Sir,

Your obedient servant,
CHARLES MANBY,
To Chas. Cochrane, Esq. *Secretary.*

Extract from "The Times" of Thursday, June 29th. 1843.

INSTITUTION OF CIVIL ENGINEERS,

Yesterday a Meeting of this Institution took place, the president in the chair.

"A paper 'on the present state of the streets of the metropolis, and the importance of their amelioration,' by C. COCHRANE, was read. It commences, by referring to reports issued by the Government on this subject, giving also a brief history of the different kinds of carriage-ways and foot-pavements, showing how little the resources of art and science have been consulted, which is illustrated by the sytem of making Macadamized roads, their formation being nearly dependent on the amount of traffic upon them. It is stated that wood-paving, of which 100,000 yards have been laid down in the metropolis, is more durable and economical than any other form of road; and that the slipperiness may be traced to the mud now brought from the other kinds of paving, and allowed to remain on it. From a tabular statement it appears, that if streets are cleansed by machinery three times a week, the quantity of mud produced on the surface is five times less than when they are swept twice in three weeks, and thirteen times less than when swept but once a week. Some good suggestions are given for improving, repairing and cleansing the streets, whilst it is stated that there are abundant means available for keeping them comparatively free from mud."

ELECTRICITY OF STEAM.

AT a meeting of the Royal London Institution, lately held, Professor Faraday communicated the result of his recent investigations connected with the electricity of steam. He stated, that the attention of philosophers was first directed to this subject, in consequence of a mechanic engaged in attending on a high pressure steam-engine having observed a spark to pass from the boiler to his hand while doing something to the valve; the man, with much alarm, reported that the boiler was full of fire; it was found, however, to be highly charged with electricity. Since that time, during the last two years, several papers had been published on the subject, and a variety of phenomena connected with it described by Mr. Armstrong of Newcastle, in the Philosophical Magazine. It had been thought probable that it would afford some explanation of the origin of thunder-storms, the electricity being supposed to be produced in both cases by the evaporation of water. In confirmation of this view, the fact which had long been observed was adduced, that electricity was produced on the sudden evolution of steam, caused by dropping water into a crucible heated nearly to redness. Mr. Faraday showed, however, that this effect resulted only under peculiar circumstances, and he said that the experiments which he was about to perform entirely overthrew the supposed connexion between the electricity of steam and that of the atmosphere. His experiments were made with a small high pressure steam-engine, isolated from the ground by blocks of shellac; from this boiler the steam issued through a pipe, at the end of which was a spherical enlargement or globe, and beyond this a wooden tube with a small perforation; the pipe of it was furnished with a stop-cock between the globe and the boiler, and water was put into the globe up to the level of the pipe and wooden exit tube. On turning the stop-cock, the steam passing over the surface of the water contained in the globe, escaped through the wooden tube, and the development of electricity was immediately manifested by a gold leaf electroscope, connected with the boiler by means of a wire. The boiler was now found to be sufficiently charged with electricity to ignite hydrogen gas or gunpowder, and Mr. Faraday said, that Mr. Armstrong, in experimenting with a large and powerful boiler at a very high pressure, had obtained sparks through a space of twelve inches, the intensity being much greater than they could produce with the most powerful electrical machine belonging to that institution. The wooden exit tube being now removed, and the steam allowed to escape immediately from the globe through a large opening, no indication of electricity was afforded by the electroscope, although in other respects the arrangements remained the same as before, thus affording evidence that the phenomenon did not arise merely from evaporation of water. The question then arose, did it depend on the friction of the steam against the exit tube? This question was answered by the facts, that if the water were removed from the globe, and the whole course of the pipe allowed to become so hot that no water was deposited from condensation, the steam might be allowed to escape through the wooden exit tube as before, without any electricity being manifested; it thus became evident that neither the evaporation of water, nor the friction of steam, was the cause of the phenomenon in question, but that it arose from the friction of water, carried with force through the wooden tube during the exit of the steam. It further appeared, that the water, to produce the effect, must be in a state of purity; its contamination with a very small quantity of a salt, such as sulphate of soda, or chloride of sodium, entirely prevented the production of electricity; this was shown by dissolving a small fragment of sulphate of soda in the water contained in the globe, when the electroscope ceased to be affected, and even common river water contained sufficient impurity to cause the same result. Several experiments were performed to show the kind of electricity produced under different circumstances. In operating as above described, the boiler was found to be charged with negative electricity; on introducing a few drops of oil of turpentine into the globe containing the water, positive electricity was obtained; in like manner the steam, after issuing from the exit tube, was found to be charged with electricity, and this was either positive, negative, or neutral, according to the distance from the extremity of the tube.

Peace.

THE CONTRADICTIONS OF WAR.

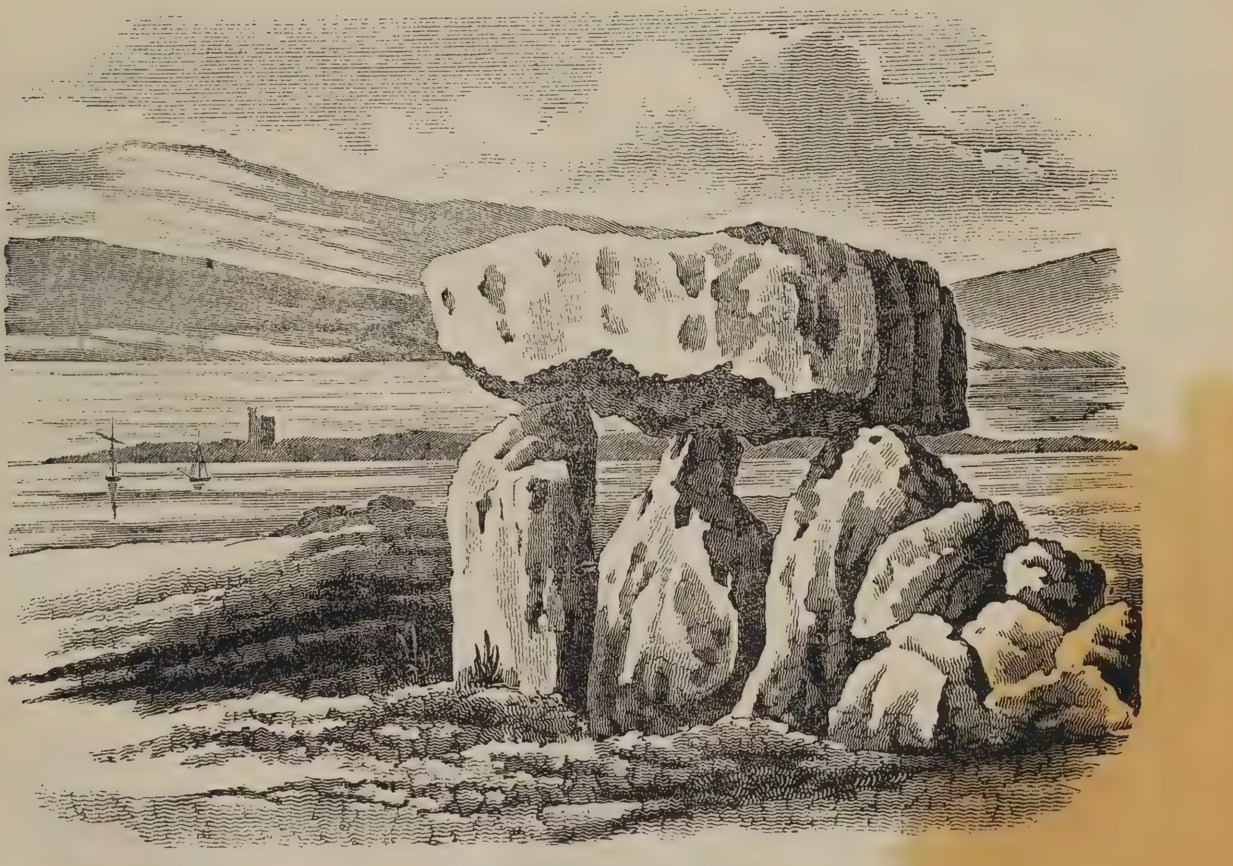
THE firing having ceased at Navarino, Sir Edward Codrington sent a lieutenant on board Moharem Bey's ship, to offer any medical or other assistance they might want. This vessel, with a crew of probably more than a thousand men, had but one medical officer on board, and he had, unfortunately, been almost the first man killed in the action. Her loss had been very great, and they had not thrown the dead overboard, nor removed their wounded to the cockpit; and the decks presented a most horrible scene of gore and mangled bodies. Amidst this frightful spectacle, about a dozen of the principal Turkish officers sat in the cabin upon crimson ottomans, smoking with inconceivable apathy, whilst slaves were handing them coffee. Seeing the English uniform approach the cabin, they ordered ottomans and coffee for the lieutenant, who, however, quickly told them that he had business of more importance to attend to. He gave the admiral's compliments, and offered any assistance. The Turks, with a frigid composure, calmly replied, that they stood in need of no assistance whatever. "Shall not our surgeon attend to your wounded?" "No," gravely replied the Turks, "Wounded men want no assistance, they soon die." Returning to the Asia, and communicating this scene, Sir Edward, after some meditation, said, "Did you observe among them a remarkably fine, handsome man, with a beard more full and black than the rest?" "Yes, I observed him; he was sitting next to the admiral." "Return then on board, and induce him or compel him to go with you on board the Genoa, and keep him there until I see him. He is the admiral's secretary. I must have a conference; and take with you any persons that he may wish to accompany him." The Turk repaired on board the Genoa without any difficulty, accompanied by several persons whom he requested our officer to take with him. Sir Edward was closeted with him for a very long time, when he ordered the lieutenant to put the Turkish secretary and his companions on shore at daybreak, wherever they might choose to land. Rowing on shore they saw the wreck of a mast, on which about a score of wounded or exhausted Turks were endeavouring to save themselves: "I must save these poor fellows," said the lieutenant, anxiously. "They are all common soldiers, and will soon die; never mind them," said the Turk, with the most grave composure. "It is my duty, and if I did not help them, I should disgrace the service, and be reported by the admiral," saying which, the lieutenant pulled towards the mast, and succeeded in saving about a dozen of these unhappy wretches. As soon as they were stowed in the bottom of the boat, the Turk, after a short but apparently profound meditation, suddenly burst into an immoderate fit of laughter. "What is the matter?" cried the astonished lieutenant. "What is there here to laugh at?" "Laugh!" exclaimed the Turk, with bitter sarcasm, "Laugh! By Allah! you English are a singular people. Yesterday you came into the bay whilst we were quiet at our coffee; you knocked our ships to pieces, killed or mangled all our men until the fleet is one vast slaughter-house; and this morning, you pretend to be so humane, that you cannot pass a score of wounded soldiers without putting yourself out of the way to save them." The lieutenant was astounded, and having no reply to offer to this odd view of the case they proceeded to shore in profound silence.

Ireland.

DRUID'S ALTAR, ISLAND MAGEE.

THIS wood-cut represents an antiquarian curiosity which, however, is similar to many in different parts of Ireland. It is supposed that the pagan inhabitants of this country used these remarkable stones for the purpose of worship or sacrifice. In general, a number of large stones form a sort of circle of convenient support for one of vast size, flattish, and weighing from two or three to fifty tons. In many instances one end of the upper stone is lower than the other, owing probably to the vast weight having pressed some of the supporting stones into the earth. These antiquities are also sometimes called Cromleachs, from two Irish words, Crom, God, and leac, flat stone. One in the county Waterford, near Tramore, is composed of six large stones, with two laid on the top. These stones formed a structure, placed east and west, apparently in conformity to religious custom of many nations which assigns preeminence to the eastern point.

There is a very fine Cromleach in the vicinity of Carlow, and two or three in the neighbourhood of Dublin. The similarity of the stones at Stonehenge, on Salisbury plain, to our pagan altars is striking; these consist of a series of stones, some lying across the top of others, and thus described:—"The great oval consists of ten uprights; the inner with the altar of twenty, the great circle of thirty, the inner of forty; there are one hundred upright stones, five imposts of the great oval, thirty of the great circle; the two stones on the bank of the area, the stone lying within its entrance, and that standing without and another on the ground directly opposite to the entrance of the avenue; so that the whole number is one hundred and forty. This singular structure is universally believed to be a Druidical temple."



(Druid's Altar, Island Magee.)

IRISH ANTIQUITIES.

We lately received a letter from a friend in Cork, of which the following is an extract: "I enclose a slip, containing a description of what the country people call a 'Brewery, perhaps it may be in your way, as you collect whatever appears in relation to our antiquities."

DISCOVERY OF AN ANCIENT BREWERY.

One of those discoveries connected with the ancient *lioses* or fortified residences of the Ancient Irish, and somewhat similar to that which we have seen recorded some months since in the Gentleman's Magazine, has just been made at Breenymore, within about four miles of Bantry. There is upon these lands, which lie a little to the east of the lake of Cappanabowl, a fort of nearly a circular form, it adjoins a small stream, and was once surrounded by a triple rampart, with ditches between; one of these, the inner rampart, only now remains It is about 12 feet in height and the internal area is 112 feet in diameter. A Crypt or subterraneous passage, open not many years back, formed it was stated. of walls of dry stone work, runs out from the east side of the fort, and may be traced under the former fosses or ditches About 100 feet farther east from this, Creedon the tenant of the land, having been engaged in levelling and draining, discovered an extraordinary work, lying north and south, formed of timber deeply imbedded beneath the surface of the soil, and laid down with great art and regularity. The length of the whole work was 68 feet. The sides were formed of large planks of oak, and the form of the whole somewhat resembled the Italic letter *Y*. One half or about twelve feet of the forked portion consisted of a solid floor formed of twelve half oak trunks, each twenty inches broad, the convex sides under. At the extremity of this, and four feet beneath the level of the floor lay a trough, or more properly a shoot or sluice, 15 feet in length formed out of an oak trunk, and having a moveable cover along its whole length; the lower extremity of this lay five feet deeper than the head. It was fitted into a square aperture formed in a large transverse piece of timber. Within this aperture and attached to the sluice or pipe by wooden pegs, was a smaller piece of timber with a circular hole in the centre to correspond with the open in the sluice. At some distance below the transverse plank stood two nearly upright posts, eight feet in length, eighteen inches broad, and eight inches thick. Connecting these at the head, it seems, had been another horizontal plank Several other pieces of timber, whose object could not be ascertained, lay in the same direction At the head of the whole work was a spring, now partly turned away, but which had originally supplied the water used therein.

On being informed of this discovery, a deputation from the South Munster Antiquarian Society, consisting of A Abell, Esq., Vice-President, J. Windele, and Zachariah Hawkes, (Bandon). accompanied by Swete, (Milton) and R. Downing, (Bantry), Esqrs. repaired to the place on the 19th inst and found it as described The timber discovered consisted of three principal kinds; the quercus robur or common oak, which by the operation of the bog water had attained a dark colour, the pinus sylvestris or native fir (the Scotch) and one piece of the taxus baccata or common yew. The length of time which these timbers had lain in their moist situation had produced such an effect on some portions of the oak and pine that, in many instances, the different annual rings indicating the growth could be easily separated without fracture; little use seems to have been made of any metal in the fabrication of these works; one small piece only. highly oxidized, was preserved, which Creedon alleged had formed part of a bolt used to fasten two heavy pieces of the oak. From its appearance it would have been difficult to ascertain what kind of metal it was, if Mr. Abell had not applied a strong magnet to which it instantly adhered, thereby proving it to be an oxide of iron. Amongst other matters discovered was a considerable qantity of red ochre highly coloured by iron—this had been used to stuff or staunch some of the cisterns. A piece of the flesh of some animal, weighing between 7 and 8 lbs., and partly converted into adipocire, was also found, as well as some small portions of heath, fern. straw, and bark.

It is of course extremely difficult to form any sound opinion as to what these works were intended for, but amongst those matters found, evidently brought down by the passage of water, the heath was seized on as indicating the site of one of those heath-beer breweries of the Danes, so curiously the subject of tradition alike to the Irish and Scotch. But that this was an idle, although ingenious, legend, there is sufficient reason to infer from the fact, that modern science has failed to produce any fermented liquor from heath. We can only vaguely refer this puzzling construction to some domestic purpose connected with the fort Several structures nearly similar have been repeatedly found in a like propinquity to the forts. In this instance this "Brewery," if so it be, lies nearly midway between the fort and one of those primeval cooking places of the Fians, a *Folloch* which lies a little to the east on the right banks of the stream.

Poetry.

PALMYRA

The moon is full. and o'er me bends
The deep though dark blue sky—
Around me spreads the desert waste,
The desert breezes sigh,
And o'er my path like dreamy shape,
What seems of elder time;
A ruined pile all silent stands,
In solitude sublime.

Oh. city of the wilderness!
Thy palms above thee weep—
Where now—the boast of vanished years—
Thy beauteous marbles sleep,
The night bird in thy palaces,
Is echoed by the blast;
And dim thy silent pillars rise,
Like spectres of the past.

Oh! where are now thy great of old—
Thy famed of other days
Whose glory wakes the harp and song,
And tires the tongue of praise?
The hands that swayed thy sceptre—where
That reared thy sculptured pride?
A voice is breathing from thy dust,
That murmurs they have died.

Thy gates were opened, east and west—
The pulse. the press of life,
Were busy then in triumph's hour,
Or fierce in mortal strife.
Now deeply rests the level sand,
Where stirred that living crowd,
And death is not more silent than
The dwellings of the proud.

Yet never in thy days of pride,
'Midst all the pomp of power,
Could'st thou so touch the musing soul,
As in this thrilling hour:
More lovely now in thy decay,
All desolate and lone,
Than when the trumpet shook thy towers,
And kings were on thy throne.

Beauregard.

THE DROP OF WATER.

AN EASTERN APOLOGUE.

"How mean. 'mid all this glorious space, how valueless am I!"
A little drop of water said, as, trembling in the sky,
It downward fell, in haste to meet the interminable sea,
As if the watery mass its goal and sepulchre should be.

But ere, of no account, within the watery mass it fell,
It found a shelter and a home—the oyster's concave shell;
And there that little drop became a hard and precious gem,
Meet ornament for royal wreath, for Persia's diadem.

Cheer up, faint heart, that hearest the tale; and though thy lot may seem
Contemptible, yet not of it as nothing worth esteem;
Nor fear that thou exempt from care of Providence shalt be,
An undistinguishable drop in nature's boundless sea.

The Power that called thee into life has skill to make thee live,
A place of refuge can provide, another being give;
Can clothe thy perishable form with beauty rich and rare,
And, "when he makes his jewels up," grant thee a station there.

FRUITLESS WISHES.

For the Dublin Literary Journal.

I wish I were the child of Power,
Some mighty monarch's heir;
The star of ev'ry courtly bower,
And greeted ev'ry where;
Beauty and wealth and pomp my dower—
I *wish* I were the child of Power.

Or might I win the meed of Fame,
With the proud gift of song;
My numbers thrilling ev'ry frame,
My name on ev'ry tongue—
I could resign both wealth and name,
If I might be the child of Fame.

Fond dreamer! know that cares may shade
The brow that wears a crown,
And fearfully are *they* betrayed
Who wait upon renown:
The gifted and the crowned must die,
And laughter melt from beauty's eye.

The honours and the pride of earth
Will fade before thine eyes;
There is one only wish of worth—
A birth-right in the skies;
Aye, well content thyself to be
The child of Immortality!

Marie.

BLOOM ON, SWEET FLOWER.

Bloom on, sweet flower,
In Nature's bower
Of loveliness and grace,
For winter's blast,
Must soon o'er cast
Thy tinted beauteous face.

I saw thee—loved thee,
Fain have plucked thee
From thy parent stem;
But Nature's bower
Would weep the hour
I'd steal so sweet a gem.

Then bloom thee on,
Thou lovely one,
Thy blushing charms wear;
I'll watch thee still,
From ev'ry ill
That may betide thy care.

And when thou'rt gone,
Thou cherish'd one,
And wither'd on thy stem,
In sorrow deep
I'll ever weep
The loss of such a gem.

Miscellanea.

MORMONISM.

A NEW sect has lately arisen in America, whose founder, Joseph Smith, pretends to a revelation not unlike that to which Mohammed laid claim. The name is derived from Mormon, who is said to have written the book. The numbers who have established themselves as members of this new sect or monarchy are rapidly increasing, and their armed ranks are receiving constant additions from England, to which two of Smith's elders came in 1837, and commenced to preach with considerable success in Lancashire. The origin of the history of Smith's imposture may be thus described.—Joseph, in his seventeenth year, began to feel, as he informs us, "the awakenings of conscience," and was at first disposed to join the Methodists. Before taking a decisive step, he went into a grove a short distance from his father's house, and besought God to inform him "which of the many hundred denominations under which Christians had ranged themselves, really constituted the true church." "While thus pouring out his soul," says the narrative, published under his superintendence, and implicitly received by his followers, "anxiously desiring an answer from God, he at length saw a very bright light in the heavens above, which at first seemed to be at a very considerable distance. He continued praying, while the light appeared to be gradually descending towards him, and as it drew nearer, it gradually increased in brightness and magnitude, so that by the time it reached the tops of the trees, the whole wilderness for some distance around was illuminated in a most glorious and brilliant manner." Into this cloud of glory, Smith, says the narrative, was received, and he met within it two angelic personages, who exactly resembled each other; they informed him that all his sins were forgiven. They further declared, "that all the religious denominations were believing in incorrect doctrines, and consequently, that none of them were acknowledged of God as his church and kingdom; and he was expressly commanded to go not after them, and he received a promise that the true doctrine—the fulness of the gospel—should, at some future time, be made known to him, after which the vision withdrew, leaving his mind in a state of calmness and peace indescribable." He declared that on the "21st of September, 1823," he saw a vision of a celestial being, who appeared to him with a brightness which illuminated his room. "This glorious being declared himself to be an angel of God sent forth by commandment to communicate to him that his sins were forgiven, and that his prayers were heard, and also to bring the joyful tidings, that the covenant which God made with ancient Israel, concerning their posterity, was at hand to be fulfilled; that the great preparatory work for the second coming of the Messiah was speedily to commence, that the time was at hand for the gospel in its fulness to be preached in power unto all nations, that a people might be prepared with faith and righteousness for the millennial reign of universal peace and joy. He was informed that he was called and chosen to be an instrument in the hands of God to bring about some of his marvellous purposes in this glorious dispensation. It was also made manifest to him that the American Indians were a remnant of Israel, that when they first emigrated to America, they were an enlightened people possessing a knowledge of the true God, enjoying his favour and peculiar blessings from his hand; that the prophets and inspired writers among them were required to keep a sacred history of the most important events transpiring among them, which history was handed down for many generations, until at length they fell into great wickedness; the most part of them were destroyed, and the records (by commandment of God to one of the last prophets among them) were safely deposited, to preserve them from the hands of the wicked, who sought to destroy them."

Smith tells us that he was next morning led in a vision by the angel to a place where the relics were deposited, "in a large hill on the east side of the main road from Palmyra, Wayne county, to Canandaigua, Ontario county, State of New York, about four miles from Palmyra, and within one of the little village of Manchester. Here, he says, that he found a square stone chest, containing plates like gold, "about seven by eight inches in width and length, being not quite so thick as common tin."

The devil, according to the narrative, made his appearance when the box was opened, but did not condescend to explain the purport of his coming. The tables are thus described—"They were filled on both sides with engravings in Egyptian characters, and bound together in a volume, as the leaves of a book, and fastened at one edge with three rings running through the whole. This volume was something near six inches in thickness, a part of which was sealed; the characters or letters upon the unsealed part were small and beautifully engraved. The whole book exhibited many marks of antiquity in its construction, as well as much skill in the art of engraving. With the records was found a curious instrument, called by the ancients the urim and thummim, which consisted of two transparent stones, clear as crystal, set in the two rims of a bow. This was in use, in ancient times, by persons called seers. It was an instrument, by the use of which they received revelation of things distant, or of things past or future."

The narrative then relates that Smith accurately copied one of the plates, and sent it by a person named Martin Harris to New York, where the transcript was shown to Professor Anthon, who stated that it contained only vague imitations of alphabetical signs, utterly destitute of meaning. Several persons, mostly relations of Smith, declare that they saw the plates, but that the profane cannot see them. The wife of one of Smith's followers, named Harris, who looked on Smith as an imposter, abstracted more than one hundred pages of the book, and Smith forbid another translation of that part to be made. Harris was the secretary, but there was always a curtain between him and his leader. After the publication of their pretended bible, the Mormonites took the name of "The Church of Jesus Christ of Latter day Saints." In a subsequent part of the book we are assured that the members could perform all the miracles which the apostles were enabled to perform by the assistance of the Holy Spirit.

The book of Mormon, as the narrative with truth declares, contains nearly as much reading as the Old Testament; it is divided into several books, named after their supposed authors, Nephi, Alma, Mosiah, Mormon, &c. It professes to contain the history of the early settlement of America, and to connect its successive colonizations with various events recorded in the sacred scriptures. We need only give a brief summary of this history: it states, that soon after the flood, the Jaredites, a righteous people, "obtained favour in the sight of the Lord," and were miraculously led by a royal prophet, named Nephi, "from the tower (of Babel) to the great ocean, where they were commanded to build ships, in which they were marvellously brought across the great deep to the shores of North America. And the Lord God promised to give them America, *which was a very choice land in his sight*, for an inheritance." The Jaredites became a very great and powerful people, they built cities, and anticipated many European discoveries in metallurgy and mechanical science, and established extensive factories. Having, however, fallen into wickedness, they were, after the lapse of fifteen centuries, swept from the face of the earth. Their sacred records, however, were left on plates of gold by one of their last prophets, whose name was Esther, in such a situation that they were discovered by the remnant of Joseph, who soon afterwards were brought from Jerusalem to inherit the land."

The history afterwards declares that, "Smith translated them, by the gift and power of God, into the English language, by the means of the urim and thummim, as stated in the foregoing."

Notwithstanding the apparent absurdity of the whole affair, a great number of persons have embarked from England to join the believers in Mormonism. In the latter part of the year 1842, more than five thousand dupes emigrated from the port of Liverpool. We have now to explain the origin of the imposture, which is one of the most singular events in literary history. To understand it right, we must bear in mind that there were two impostures, originally distinct, the discovery of the pretended gold plates by Smith, and the production of the alleged translation, or book of Mormon, which was an afterthought. In 1822, Smith, acquired some celebrity in his neighbourhood as a money-digger. It is a common belief in America that large sums of money were buried in the earth by the buccaneers or pirates, and by persons compelled to fly from their homes during the revolutionary war. Of this belief many impostors have taken advantage, declaring that they can discover the hidden treasure by spells and incantations. Joseph Smith, in his eighteenth year, professed to have found a mysterious stone—the same that figures as the urim and thummim in his pretended revelations—by which he could see the exact spot where money had been concealed, or where mines of gold existed. Several persons were duped and cheated by his arts, which were beginning to get stale, when he devised his notable scheme of the plates, designed in the first instance as a plot of pretended treasures and forged antiquities. As such he proposed to pledge them to Martin Harris, dwelling rather on their intrinsic value as gold, than on the importance of their inscriptions. We shall now see how this fraud was connected with "The Book of Marmon." An old clergyman of the Presbyterian persuasion, having quitted the ministry, entered into business at Cherry Valley, in the State of New York, where he failed in 1809. Thence he removed to the State of Ohio, whence he established himself as a speculator in land, but again became bankrupt in 1812. About this time public attention was first directed to the antiquities of the mounds, those unquestionable relics of a civilization which must have become extinct long before Columbus had passed the Atlantic.

"The ancient remains of the United States," says Mr. Bradford, the latest and most intelligent writer on the subject, "bear evident marks of being the production of a people elevated far above the savage state. Many of them indicate great elegance of taste, and a high degree of dexterous workmanship and mechanical skill in their construction; others betoken the existence of a decided form of religious worship, while the size and extent of the earthen fortifications and mounds demonstrate the former existence of populous nations, capable of executing works of enormous dimensions, requiring perseverance, time, and combination of labour, for their erection."

Long previous to this discovery, it had been a favourite theory with certain speculative writers, that the Red Indians of North America are the descendants of the lost ten tribes of Israel; indeed, the opinion has still many advocates, both in the United States and in England. Spaulding hoped by combining this theory with the recent discoveries, to produce a kind of national romance, the sale of which would pay his debts. He resolved to call the work, "The Lost Manuscript Found," and to present it to the world as an historical record of the early colonization of America. As he advanced, he was so delighted with his success, that he read portions of the work to his friends and neighbours. His brother, his partner, his wife, and six of his friends testify, "that they well remember many of the names and incidents mentioned in Spaulding's manuscript, and that they knew them to be the same as those found in the book of Mormon." In 1812, Spaulding took his manuscript to Pittsburg in Pennsylvania, and placed it in the hands of Messrs. Patterson and Lamdin, printers; it remained in their hands when the unfortunate author died, a victim to disappointment and vexation. Mr. Caswall is of opinion that this manuscript came into Smith's hands without the intervention of Rigdon, and was prepared for the press by the arch-impostor himself, without any literary assistance. This though possible, appears to us far from probable; small as the literary merit of the book of Mormon is, it appears to us beyond Smith's powers. Rigdon was originally a printer in the office where the manuscript was deposited. The latter disappeared, and Rigdon soon after turned preacher of doctrines similar to some contained in the book.

In the seventeenth century an assembly of hypocritical puritans declared as follows, previously to dispossessing some poor Indian tribes of their hunting grounds :—

1st. It was moved and seconded—That the earth is the Lord's, and the fulness thereof.—*Carried unanimously.*

2nd. It was resolved with equal unanimity —That the Lord hath given the inheritance of the earth unto his saints.

3rd. And finally, the meeting carried by acclamation—*Resolved, that we are the saints.*

The Mormonites declared something like the same resolutions, about property in general, and the Missourians getting alarmed, on the 20th July, 1833, demolished the printing office in the Mormonite village of Independence, tarred and feathered several of their preachers, and threatened utter destruction to the rest, unless they immediately quitted the district. At first the Mormonites appealed to the law, but in the western states of America an appeal to the legal authority was just as inefficacious as an appeal to the Grand Lama of Thibet, or the Pope of Rome, and not quite as rational. It so irritated the Missourians, who equally hate old law and new gospel, that they drove twelve hundred Mormonites from their huts, the greater part being women and children, on a dark winter's night, barefoot and nearly naked, into the bleak prairies: cruelties still more atrocious were exercised on obnoxious individuals, several were flogged to death, and the houses of all were burned to the ground. Smith led a body of armed Mormonites against the Missourites of Jackson country, but his courage failed, and he entered into a truce; and about this time also, actions were commenced against him and his vicar, for frauds in the conducting of a bank in Kirkland. Ohio became unsafe, and he came into Clay country, in Missouri, declaring his intention of propagating his opinions sword in hand, and he organized a band of sworn assassins, named the "Danite band." The militia were called out to keep the peace, but they behaved badly, and assisted the mob against the Mormonites. The most fearful atrocities were committed on both sides. An overwhelming force compelled the Mormonites to surrender, and a court-martial composed of nineteen officers of militia and seventeen volunteer preachers serving in the militia, commanded that the prophet and his principal comrades should be publicly shot in the square of the town of Far West, in presence of their followers and families. One of the generals, however, declared the proceedings to be illegal, and induced the Missourians to give them up to the civil power. Their leaders, after being several weeks in prison, contrived to make their escape, and returning to their deluded followers, asserted that they had been miraculously delivered like Paul and Silas of old. This persecution was, on the whole, favourable to the progress of Mormonism, and the rival state of Illinois offered a refuge to the fifteen thousand Mormons who were about to be driven from Missouri.

Early in 1839, Smith found a new situation for the New Jerusalem, in the state of Illinois, on the Upper Mississippi, at the head of the Des Moines Rapids. Here, on a semicircular curve, formed by "the father of rivers," he laid the foundation of a city denominated Nauvoo, a name which he informed his readers signified "beautiful" in Hebrew. During his imprisonment, however, suspicions had arisen in the minds of some of his followers, and they required of him some miracle as a sign of his mission. He had the blasphemy to reply in the words of our blessed Lord, "A wicked and perverse generation seeketh after a sign," and with this answer his deluded followers were contented. Here we may remark, that a slight error in the English authorized version was the source of Smith's triumph. The Jews did not ask "*a* sign" from Christ—it would be absurd to have done so—for his miracles were notorious; they sought for *the* sign, namely, "the Son of Man coming in the clouds of heaven," which sacerdotal and popular tradition, from the days of Daniel, had taught them to be the only certain characteristic of the Messiah. We dwell on this the more particularly, as all the Mormonite publications before us set forward this mistranslation as an excuse for their prophets working no miracles in public. Having re-established his community at Nauvoo, Smith had sufficient influence to obtain a charter for the new city from the legislature of Illinois, with liberty to raise a body of militia, under the command of Smith, as lieutenant-general; he also obtained charters of incorporation for companies to build a temple, erect a hotel, conduct a manufactory of earthenware, and to crown the whole, a Mormonite university!

Mormonism was first introduced into England by two of Smith's elders, named Kimball and Fielding, in 1837, who came to Preston from America, immediately after the failure of the Mormonite bank in Kirkland. They obtained license to preach at the quarter sessions, and their success was perfectly astonishing. About two years after, Parley Pratt having escaped miraculously, as he said, from the Missouri prison, came to England, and assumed the superintendence of the Latter Day Saints. Smith's last literary fraud is the most amazing of all, and far surpasses that which the Rev. Dr. Wall has fixed upon Chamollian. By some means or other he obtained possession of four Egyptian mummies, which he exhibited for a time to his followers as the bodies of an Egyptian king, his two wives, and the daughter of an other king. After some time, he removed the papyrus rolls, in which they were enveloped, by the application of no more delicate instrument than a back-woodman's hatchet, and exhibited the fragments as the actual autograph of Abraham, written with his own hand while in Egypt.

Last summer, a little after he had quarrelled with Sydney Rigdon, he commenced to publish what he has been pleased to term a translation of these documents, in his "Times and Seasons," a periodical which he edits at Nauvoo. The absence of his better genius, Rigdon, is singularly apparent in this miserable forgery; it is full of the grossest blunders in geography and history. During the course of last summer, several Indian chiefs came to Nauvoo, to see the prophet who professed to have discovered the last records of their nation; but these shrewd sons of the desert, soon discovered Smith's weakness, and returned home in disgust. At the present moment, Smith affects to regard Nauvoo as his Medina, and Zion in Missouri as his Mecca. He preaches to the Mormonites the necessity of re-conquering their holy city, and taking vengeance on the wretches by whom they were expelled. It is for this purpose that this legion is kept to regular drill, and would now be an over match for an equal number of American militia. The recent assassination of Boggs, the governor of Missouri, by one of Smith's Danite and, and the ostentatious protection afforded to the murderer at Nauvoo, have, however, alarmed the Missourians. They applied to the state of Illinois to have Smith arrested, and he was apprehended by a messenger, but was again liberated on a *habeas corpus*, issued from his own court at Nauvoo. This has been annulled by the Illinois state court, and the prophet seems likely to be left in what the Americans call "a pretty particular fix," and so think many of his old associates, who have not only quitted the Mormonite ranks, but actually commenced assailing him through the press. The race of the prophet appears almost run. In Lancashire Mormonism is certainly on the decline, and in London we have been unable to find any recent traces of its existence. It is possible that Smith may make a sanguinary struggle in America, and that the civil war in the Western States may be renewed; but his followers have no confidence in his courage, and his book of Abraham has placed such an additional weight on credulity, that it must break even the faith of Mormonites, if further continued. It was a sad blunder in Smith to forget that his prototype Mohammed was a man of only one book.

We have reserved for our conclusion one of the most extraordinary incidents in this strange eventful history. The general outline of the career which Smith has run, was predicted by Robert Southey, in a work published the very year before that in which Mormonism was started. Here is the passage:—"America is in more danger from religious fanaticism. The government here, not thinking it necessary to provide religious instruction for the people in any of the new States, the prevalence of superstition, and that perhaps IN SOME WILD AND TERRIBLE SHAPE, may be looked for as one likely consequence of this great and portentous omission. AN OLD MAN OF THE MOUNTAIN might find dupes and followers as readily as the All-friend Jemima, and the next Aaron Burr who seeks to carve a kingdom for himself, out of the overgrown territories of the Union, may discover that FANATICISM IS THE EFFECTIVE WEAPON WITH WHICH AMBITION CAN ARM ITSELF, that the way for both is prepared by that immorality which the want of religion naturally and necessarily induces, and that CAMP MEETINGS may be very well directed to forward the designs of a MILITARY PROPHET. Were there ANOTHER MAHOMMED to arise, there is no part of the world where he would find more scope, or fairer opportunity, than in THAT PART of the Anglo-American Union into which the elder States continually discharge the restless part of their population, leaving laws and gospel to overtake it if they can; for in the march of modern colonization both are left behind."—*Southey's Colloquies*, vol. II. p. 42. 1829. The history we have given affords much room for painful, but not useless reflection; our narrative, however, has extended to such a length, that we are precluded from comment. We shall only say, that no pains have been spared to authenticate every fact which we have stated, that many repulsive circumstances in the history of the delusion and its concomitants have been omitted from motives of delicacy, and that in our humble opinion, the progress of Mormonism in England and America is a very sorry accompaniment to the march of intellect in the nineteenth century.—*Abridged from University Magazine.*

ROYAL SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS.

We are glad to be able to state that this society is progressing in public opinion. It has already made a great reformation in the treatment of cast horses, asses, cattle, and the ill-used horses whose valuable services are so little regarded by either public car-owners or drivers, and we are sorry to say, by many of the public themselves. The advertisement which appears in our present number is of universal importance, as we are sure it will appear to our readers. Since we received that advertisement, we are able circumstantially to state that in *two* cases *very dangerous attacks* of illness, were medically attributed to the use of *veal such as it is now prepared for the table*. We recommend all our readers to have it prepared in future as other meat, if not to indulge in the attribute of mercy, at least for their own sakes; and they can easily judge for themselves. In the last printed report of this valuable society are many excellent advices, from which we select the following:—"Let us then entreat all those into whose hands this report may fall, that they consider their ways in this respect. Have you a horse or an ass; see that he is sufficiently fed, and not worked beyond his strength. Suffer no one to abuse him, and never do so yourself. Power is given you over him, to use him for your pleasure and convenience; you have power also over him to take away his life; but, in taking away his life, if necessary, you must do it in the easiest and quickest way possible, otherwise you *abuse* instead of properly *using* the power which God has given you over him. You are not to work him till he is ready to die with fatigue; or to give him so little food as that he has scarcely strength left to do what is required of him; or maimed, or injured, in any respect through wantonness and passion, all of which is done continually. This is an *abuse* of the power which God has given us over the brute creation. And what is herein said, extends to every animal that belongs to us, to beasts, birds, and fishes, to every insect that flies, and to every reptile that crawls on the earth; for, has not God made them all; and are they not all as wonderfully made as man himself? If you were only to examine the structure of the smallest insect, or understood the nature of the various living creatures on the earth, you would be astonished at the wisdom and power of God, and would see yourself guilty in using any of them ill. The power over them is given you by God; and in proof of this you are referred to the ninth chapter of Genesis, verse two, where God says to Noah and his sons, 'And the *fear* of you, and the *dread* of you, shall be upon every beast of the earth, and upon every fowl of the air,' &c. Now, *but for this*, you would have no power at all over them; for if the animals had not this fear and dread of man, do you think that so powerful an animal as a horse would suffer himself to be led about by a little boy? or put to labour by a man who has scarcely a tenth part of his strength? Certainly not; and therefore we must acknowledge that man's power over them is given to him by God.

"If any proof were wanted of the depravity of our nature, it might be found in the cruelty exercised towards animals; for even children take pleasure in witnessing their sufferings. Numberless instances might be brought of this; and it is only from the restraints of education, and from having a different direction given to the feelings, by parents who see the evil of such things, that the instances are not universal. But let every one consider how much *they* love life, and ease, and good treatment, and then let them reflect that the poor brutes have the same sense of *bodily* sufferings which they themselves have, and that *life* to them is their *all*. *Man* has something to look forward to in another state; so that if he has poverty and suffering *here*, he may hope (through that gracious Redeemer who brought life and immortality to light) to enter upon a better, yea, a truly happy state *hereafter*. But not so the inferior creatures; they die to rise no more; therefore, the happiness they can enjoy *here* is all which they have to make them amends for the use and pleasure they afford us; and can we then lessen this happiness by ill usage? Truly we ought not to do so.

"Pray, then, think of all this, whoever reads this report, and let it be well considered by those who desire to do their duty, that 'The *righteous* man regardeth the life of his beast.'"

The smallest donation or subscription to the *exhausted* funds of this useful society, is earnestly requested, and will be thankfully received by Major Moore, Honorary Secretary, 2, Lower Ormond quay, Dublin, or by the Proprietor of this Journal.

THE MAROON WAR OF JAMAICA.

There is not upon record a war sustained by savages against disciplined troops more extraordinary than the Maroon war of Jamaica. The Maroons were totally ignorant of combined movements and discipline; they were not commanded by men of education, capable of imparting the latter and comprehending the former; nor were they stimulated by patriotism or made enthusiasts by religion. In all these respects they were totally different from the Guerillas. Their war was produced solely by a love of plunder, and of a life alternating between the most torpid indolence and the most daring enterprise to obtain the necessaries of existence. They had no cannon, no cavalry, their arms consisted of swords and muskets without bayonets; but with these they effected what was most incredible.

The white and the slave population of Jamaica, formed a mere belt, extending round the coasts. The interior of the island is a mountainous scene of wild and savage nature. It abounds with immense huge rocks, with rugged acclivities, often with sides absolutely perpendicular. In these rocks, there are numerous fissures, and small glens of luxuriant herbage presenting, perhaps, the most romantic and sublime scenery in the world. The whole interior of the island abounded in vast forest trees, or was covered with brushwood, and with a gigantic herbage, capable of concealing any number of men. The thorny branches often rendered whole tracts of country impassable except to the Maroons, who cut narrow passages through them, or who upon their hands and knees could travel underneath them for miles. These sublabyrinths, intricate, tortuous, and dangerous in the extreme, had been made by the wild hogs, and through them the Maroons travelled upon all fours, until coming to an opening, their unerring muskets picked off our videttes and sentries, and totally destroyed our outposts, without our men seeing the enemy by whom they were sacrificed.

It is obvious that no country could be more favourable to savage warfare. In the centre of the island, from east to west, ran three parallel lines of glens, called Cockpits. In each parallel, these natural basins were bounded by stupendous rocks, and communicated with each other by fissures, irregular, narrow, steep, and rugged. The rocks fencing the Cockpits to the south were almost inaccessible in every place, whilst those to the north were absolutely perpendicular. Most of these Cockpits abounded with majestic trees, and the soil watered by innumerable rills, was luxuriant in the extreme.

The Maroons were the descendants of the aboriginal inhabitants, and of negroes who had fled from the Spanish masters into the interior when we captured the island in 1655. Their numbers had been increased by runaway slaves of every description, but especially by the restless, brave, and ferocious African tribe of the Coromantees. Among the Maroons was a class with a jet black complexion and regular handsome features; the whole tribe of Maroons, however, were tall, well made and athletic; and when the Duke of Kent, after their surrender and shipment to Halifax inspected them, he pronounced them the finest body of men he had almost ever seen. Their feats of agility and strength surprised our officers. They could climb trees like monkeys and could ascend rocks, and bound from crag to crag, where our most active soldiers could not approach. Their keenness of eye was most extraordinary; and so acute was their sense of hearing, that, with their ears to the ground, they would detect our movements at a distance at which theirs to us were totally inaudible. Patient of hunger and fatigue, they could select nutritious roots and herbs from the many which in that climate were deemed poisonous; whilst our ignorance prevented our discriminating the one from the other, and consequently deprived us of the use of all. Almost every man possessed a rifle, fowling-piece, or musket, and their accuracy at fire was proved by the sequel to be superior to any thing on record.

Their first chief, Cudjoe, had carried on a regular war against us, until his name became the vexation of our officers and the terror of every white inhabitant. At length we obtained from the Musquitoe shore a body of semi-savages, Mulattoes, Indians, and Africans called Black Shots. These men, under an English adventurer, named James, fought the Maroons in their own style, but with very inferior success. The ferocity of the war, and the cruelties practised on the white inhabitants are incredible. At length, by the aid of these Black Shots, and at an enormous expense of lives, we penetrated to the vicinity of Cudjoe's fastnesses. Upon a high table-land of several acres, called Flat Cave River, we built a set of barracks, with four bastions and high walls. In these we kept our stores of provisions and ammunition, with a considerable body of militia and regulars. The fatigue of bringing up supplies from the coast, by which, in that climate our troops had suffered great mortality, was now spared, and the predatory excursions of Cudjoe were considerably checked. The government now thought the Maroons were in their power, especially as they had been quiescent for several weeks, when they suddenly learned that Cudjoe and his whole tribe had decamped from their scene of operations in the south-east of the island, and had moved to Trelawney, near the entrance of the great line of Cockpits to the extreme north west of the island. The first and largest of these Cockpits was called Petty River Bottom. It contained about seven acres of verdant soil and the inaccessible sides were covered with the largest forest trees. The entrance was a mere fissure, passable only by the most vigorous and agile of mountaineers, and from the sides of which a few riflemen might have defended the defile against any numbers, or any species of attack.

Under these circumstances did a few hundred savages keep the whole island of Jamaica in terror, baffle our military force, and oblige us at last to offer terms of peace. Col. Guthrie was sent to make the overtures, and the scene between him and Cudjoe was characteristic in the extreme. The daring savage suddenly became a timid slave. The negociation took place in one of the wild fastnesses of the mountains, to which Col. Guthrie had advanced to offer terms. Cudjoe was rather a short man, uncommonly stout, with very strong African features, and a peculiar wildness in his manners. He had a very large lump of flesh upon his back, which was partly covered by the tattered remains of an old blue coat, of which the skirt and the sleeves below the elbows were wanting. Round his head was a scanty piece of dirty white cloth; he had a pair of loose drawers that did not reach his knees, and a small round hat without any rim. On his right side hung a cow's horn, with some powder, and a bag of large cut slugs. On his left was a knife, three inches broad, in a leathern sheath, suspended under the arm by a narrow strap that went round the shoulder. He had no shirt and his clothes and skin were covered with the red dirt of the cockpits. Such was the chief, and his men were as rugged and dirty as himself; all had guns and cutlasses. This treaty, signed in 1738, was as if between regular belligerents, but it stipulated that in future, the Maroons should be registered, and have two white agents residing amongst them. From this period to the last and most serious war of 1795, the relation of the Maroons to the whites became totally different. Their connection was friendly, and the planters had created in them both a contempt and a hatred of the negroes, whom, when fugitives, they always caught and restored to their masters. In this war it was proved that all the movements of the different chiefs or leaders of gangs had been isolated and independent: there had been no communication between them, and the effect is, therefore, the more astonishing.

By this treaty the Maroons at Trelawney Town, their principal seat, had 1500 acres of land allotted to them. A white superintendent, with four assistants, resided there. They became attached to the planters, and rendered them all homage, and very essential services. On one occasion, when a large body of Coromantel negroes had risen upon their masters, and were successfully contending with our troops, murdering all that fell into their hands, the Maroons attacked them in the woods, killed two-thirds of their numbers, and brought the rest back to subjection. A Major James was the principal superintendent of the Maroons. He was the son of the celebrated leader of the Black-Shot men, and the superstitious terror, which the Maroons had entertained towards the father, they transferred to the son, accompanied, however, with veneration and affection. Major James was certainly an extraordinary person. With the education of a gentleman and the science of a soldier, he possessed all the instincts and every corporeal quality in equal perfection with the Maroons. He could beat the fleetest of them in their foot races, could foil them in their wrestling matches and sword fights, and could wear them out with fatigue in the dangerous chase of the wild hogs in the mountains. He was unerring with the rifle; and such was his influence among the tribes, that he could stop their ferocious conflicts, subdue their feuds, and punish the turbulent in the most summary manner. Upon this man the government depended. Major James was possessed of a private fortune, and would occasionally absent himself from his duty to attend his private estates. A law of compulsory residence was passed, which he refused to obey and he was dismissed from his employment. The Maroons were chagrined in the extreme at this circumstance, and did all they could to get Major James again amongst them; but the authorities were inexorable. Other circumstances occurred to irritate the Maroons; the negro insurrection in St. Domingo unsettled their minds, and finally, a very questionable act of severity, not to say of cruelty, was practised upon them at this unfortunate juncture. Two Maroons had been taken up for some offence in the town of Montego Bay, and the magistrate had them flogged by a runaway negro before the slaves of the town. The antipathy and contempt of the Maroons for the negroes we have already noticed. This indignity was not to be borne, and it led to a most fatal war. General Palmer and the local authorities, with some of the principal proprietors of the north side, wrote to the capital, advising that Major James might be restored to his office, and that concessions might be made to these people. These requests were unattended to, and immediately after the war broke out. Lord Balcarras, the governor, deemed these men so formidable that he directly proclaimed martial law throughout the island, and detained the expedition about to sail to St Domingo. The Success frigate was in the offing, having on board the 83d foot, Col. Fitch; a regiment in the finest order, and what is extraordinary for the West Indies, mustering a thousand rank and file for the parade. The Success was recalled by signal, and made to disembark the troops.

(To be continued.)

Consumption of Spirituous Liquors in Ireland—In the year ending the 5th of April, 1839, the number of gallons of proof spirits (whether from malt only, or a mixture of malt and unmalted grain) on which duty was paid for home consumption in Ireland was 11,931,922. In the year ending 5th of April, 1840, it declined to 10,336,076; in 1841 to 6,830,498; in 1842 to 6,528.946, and in 1843 to 4,813,045. The whole of this decline may be attributed to the temperance movement, except that which is exhibited by the last year, ending 5th of April, 1843, which is attributable to the additional shilling per gallon imposed on Irish spirits having given a renewed life to illicit distillation, as the tripled number of prosecutions under this head plainly proves, the number in the year having increased from 942 to 2805.—*Parliamentary Paper*, 1843, *No.* 337.

In the evening we drove to the orange grove, where 3000 lofty trees are ranged in avenues, literally bending under the weight of their golden fruit and snowy blossom. I never saw a more beautiful sight. Each tree is perfect and lofty as a forest tree. The ground under their broad shadows is strewed with thousands of oranges, dropping in their ripeness, and covered with their white fragrant blossoms. The place is lovely, and every way traversed by streams of the purest water.—*Life in Mexico.*

Gardening—To propagate Heaths.—Fill the pots half full of broken pot, add a handful of good rich. open peat soil, and about one inch of pure sand, with a small portion of charcoal-dust; when the young shoots have got past their tender state and become partly hardened, as it is termed, or half ripened, then is the best period to ensure success; take the most healthy, cut them clean with a sharp knife, clear off with a small scissors a portion of the leaves, as far as the cutting is to be inserted, which should be one-third of its length; water the sand, and when drained, put them in as firm as can be done, so as not to bruise them; water afterwards, and when dried a little, put on closely a bell-glass, placing the pots in a propagating house; take off the glass every morning, wipe it with a dry cloth, and leave it off for half an hour or so, taking care to water the cuttings often, having a fine rosed watering-pot. I have seen thousands of cuttings put in, and lost for want of sufficient water. By the above plan they strike nearly universal.—*A London Heath Grower, in Floricultural Cabinet.*

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DUBLIN AUXILIARY SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS.

The Committee of the above Society, with a two-fold view of convincing the Public in general of the injurious properties of what is commonly termed "Prime Veal," and also in the hope of putting a total stop to the present barbarous and pernicious mode of preparing this (otherwise wholesome) meat for sale, deem it their imperative duty to submit the following facts, which there has been no attempt to deny, on the part of many of the most respectable Victuallers in this City; on the contrary, your Committee have the satisfaction of being enabled to add, that very many such persons as are most extensive in the sale of that article have expressed their hope that their customers may, within a very brief period, be fully convinced that veal is considerably injured, both in property and flavour, by the means at present employed, in order to render it more pleasing to the eye; and they trust and hope that, after a fair trial of this meat, slaughtered at once like other cattle, the public generally will be perfectly satisfied with its not being so white, but certainly of more healthy colour and quality.

Now, your Committee proceed to describe the mode of preparing "Prime Veal." Great pains are taken in feeding veal calves, and they are carefully brought to Smithfield. When purchased by victuallers (say in the morning), the *draining* or whitening system commences, and we mark the word in *italics*, as it will be seen that the wretched animal is *literally* drained, not only of every drop of blood (which is, of course, necessary, *if properly and expeditiously done*), but also of its serum and every juicy matter which constitutes nourishment, leaving nothing but a mass of sickly fat and indigestible pulp behind.

The calf is first bled largely in the neck, with a small knife or lancet, and becomes so extremely weak as to require a certain quantity of new milk and eggs, &c. in order to strengthen it for a second draining in the evening, when it again becomes so weak as to require more nutriment, as before, and strict watch lest it should (as is termed) "kick up," or in other words, die of exhaustion during the night; but matters do not end here, for this wretched creature is again the following morning destined to another bleeding, and again *indulged* by being permitted to swallow its portion of new milk and eggs. But, observe, its sufferings are not yet complete; no, no, it is not yet white enough for the eye or palate of the mistaken epicure; for it is, after all this, suspended by the hinder legs, its neck opened with a *somewhat* larger knife, and allowed to struggle with death for fifteen or twenty minutes, when its sufferings are terminated by pithing or dividing the spinal marrow. This is "Prime White Veal"—white, indeed, nor could it be otherwise than pale and sickly: nor do we envy those whose depravity of taste prefer it to meat of more ruddy hue, and of a far more wholesome kind.

As the foregoing may appear an overdrawn picture, your committee think it right to add that the secretary of the society (to whom the facts have been frequently represented) determined to ascertain them, and he has taken the pains not only to inquire minutely into the matter, but has himself witnessed it from the commencement to the revolting and barbarous conclusion—and he represents the suffering of these animals when hung up and dying, as most distressing; and he is *quite convinced* that it would be gratifying to the Victuallers generally (particularly the most respectable portion of them) if they could be spared this useless infliction of torture, by a reasonable trial on the part of their customers, of veal slaughtered in the same manner as other animals, and as mercifully and expeditiously as possible.

Your Committee have only to add that they have submitted this statement to several medical gentlemen, who have, in consequence given their opinion; and it is confidently hoped that this shameful and heartless practice will be discontinued, particularly as it will be at once seen that "prime veal is, of all food, the least nutritive of any animal food—by far the most indigestible, and therefore, most unfit for invalids." By Order,

Office, 2, Lr. Ormond-quay. Wm. Moore.
12th April, 1843.

Merrion-square, May 6, 1843.

Dear Sir—There can (I think) be no doubt that meat prepared in the manner described in the circular you have transmitted to me from "The Society for the Prevention of Cruelty to Animals," is deprived of its most nutritious properties—and is, besides, rendered less digestible. It is on this account that persons who suffer from weak digestion can seldom eat veal with impunity; perhaps if this were generally known "prime veal" would appear less frequently at the tables of the rich than it does at present, and thus our selfishness would grant to the poor calves a boon which they might ask in vain from our humanity.—I remain, dear Sir, very sincerely yours, Philip Crampton.

William Moore, Esq. &c. &c.

40, College, Dublin, April 11, 1843.

Dear Sir—I have read with attention your statement of the shocking process of preparing *prime veal*. I don't see how the practice can be stopped without some legislative enactment, unless the buyers could be tempted to make trial of veal killed by one sudden bleeding, as in other animals.

I am, from experience, able to speak of its great superiority—and indeed, I consider prime veal as by no means good food for those who have not very good stomachs.—I am, dear Sir, very truly yours.

Thomas Coulter.

Major Moore.

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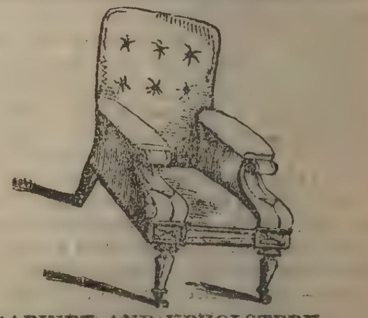

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Reviews.

A Narrative of a Visit to the Australian Colonies. By James Backhouse. Illustrated by three maps, fifty etchings, and several wood-cuts. London : Hamilton, Adams, and Co.

The author of this valuable volume is a minister of the Society of Friends, and he had an advantage in his missionary voyage which is possessed by few occupied in similar labours of love to their fellow-creatures ; namely, that he was capable of comprehending and noting down the varieties in the geological and botanical divisions of nature as well as natural history in general, which has added an interest to the volume that we were not prepared to expect. In fact, we know not where to turn for equally valuable notices of those distant regions. It is illustrated by maps, etchings, and wood cuts. There is a copiousness upon various subjects, and, amongst others, there is an essay " upon the indigenous vegetable productions of Tasmania, available as food for man."

The author thus describes the purport of the work in the introduction ; he was accompanied in this religious service by another minister of the Society, George Washington Walker ;

" The visit to the Australian colonies, a narrative of which is contained in the following pages, occupied a period of six years, terminating in 1838. It was undertaken, solely, for the purpose of discharging a religious duty. During its course, the writer kept a journal, in which, having been trained to habits of observation, records were made, not only on religious subjects, but also on such as regarded the productions of the countries visited, the state of the aborigines, and of the emigrant and prisoner population."

They sailed from London on the 3d of the 9th month, 1831, on board the Science, and on the 4th of the 2nd month, 1832, arrived in sight of Van Dieman's Land, and landed at Hobart Town on the 8th. The following notice of the town will prove interesting, though the improvements and population have considerably increased since that time :

" Hobart Town, the capital of Tasmania, or Van Dieman's Land, is beautifully situated on undulating ground, by the side of an estuary called the Derwent, from its resemblance to the lake of that name in Cumberland. In 1831, the number of inhabitants was 8360. In 1837, it had become augmented to 14,461, and was still rapidly increasing. The streets are spacious, and most of them cross at right angles. The houses are chiefly brick, and covered with shingles that have the appearance of slates : they stand separately in little gardens, except in a few of the streets best situated for business, and extend over several low hills at the foot of Mount Wellington, which is 4000 feet high, and covered with wood, except where basaltic cliffs protrude near the top. The view from the town toward the sea is exceedingly beautiful, extending over many miles of water, enlivened by shipping, and bounded by woody hills, on which the greenness of numerous patches of cultivated ground, ornamented by whitewashed cottages, has taken the place of the sombre forest."

Soon after their arrival they went on board the Elizabeth convict ship, which had just arrived from England, and witnessed what we suppose to be the custom in every convict vessel on its first landing its unhappy cargo.

" 20th. We went to the penitentiary to see the convicts from on board the Elizabeth, examined by the Lieutenant-Governor, who spoke to several of them individually : he alluded to the degraded state into which they had brought themselves by their crimes ; this he justly compared to a state of slavery ; he gave them counsel regarding their future conduct, warning them particularly against the influence of bad company, and of drunkenness ; and told them they might regard the door of a public house, through which many of them had come into their present situation, as the entrance to a gaol ; that their conduct would be narrowly watched, and if it should be bad, they would be severely punished, put to work in chain gangs, or sent to a penal settlement, where they would be under very severe penal discipline ; or their career might be terminated on the scaffold. That, on the contrary, if they behaved well, they would, in the course of a proper time, be indulged in a ticket-of-leave, which would permit them to reap the profit of their own labour ; that if they should still persevere in doing well, they would then become eligible for a conditional pardon, which would give them the liberty of the colony : and that a farther continuance in good conduct, would open the way for a free pardon, which would liberate those who received it, to return to their native land. That the masters to whom they were assigned, would, in the meantime, provide them with a sufficiency of food, clothing, and bedding ; and that the government expected them to labour for their masters without wages, and to do it cheerfully."

Our author details some of the modes by which gangs of youthful robbers are supported in London, which though not new to us, yet we introduce it as coming from such good authority. It is our opinion that a sound flogging administered on these youthful delinquents by lawful authority, would be much more dreaded, and would more effectually prevent a repetition, than any enactments, however wisely planned, by which they are transported at a vast public expense to Van Dieman's Land. We have been informed that there are establishments in London where young persons are *taught* to pick pockets in the most expeditious manner, where bells are hung over these pockets, so as to try to the utmost the sleight of hand of these accomplished aspirants to Van Dieman's Land. It is probably to such establishments that our author alludes.

" Several of the convicts who arrived by the Elizabeth, had belonged to a society of thieves in London, who limited their number to forty members, admitted by their captain, at any age, but preferring the young. They were distinguished by marks, which had occasionally been changed because others had imitated them. They meet at certain times to be trained to expertness in pocket-picking, and to divide their booty, which was expended in dissipation and profligacy, unless any of their number were in prison, in which case a portion was devoted to paying counsel for them on their trial. Several other such societies are said to exist in the metropolis of England. Some of the juvenile prisoners had been confined on board a hulk before being sent to Van Dieman's Land. In this situation they appeared to have corrupted each other greatly. There is much ground to apprehend that the juvenile hulks are nurseries of vice and crime."

The rapidity with which this distant colony has arrived at maturity is quite remarkable.

"22d. I had some conversation with a person who was brought to the colony in 1804, at the time that Lieutenant-Governor Collins first formed a settlement in Van Dieman's Land. At that period he was but a child; and on landing was lodged with some others under a blanket supported by sticks, near the place where the Commissariat office now stands in Hobart Town, which at that time was covered with wood. After spending a night there, they were removed to the spot where the village of New Town now stands, *and lodged in a hollow tree*. Here they were first visited by the aborigines, with whom the children were often left, and who treated them kindly. Provisions becoming scarce, the people often cooked maritime plants, collected on the sea-shore, which bear to this day the name of Botany Bay greens. Sometimes they collected for food, the crap or refuse of the blubber of whales, out of which the oil had been taken by whaling vessels, and which was washed upon the shores. At length, the pressure of hunger was so great as to oblige the governor to give leave to some of the convicts to go into the country and shift for themselves. Many of these committed outrages upon the natives, whose animosity toward the white people thus became excited at an early period, notwithstanding many years elapsed before they were in open hostility."

The advantage of a knowledge of natural history is manifested throughout the entire volume. We find much information on the interesting objects which here present themselves to European eyes. If the study of nature were more general, colonists as well as missionaries might render essential service to science, and through this to mankind, who turn every species of knowledge to their advantage, by acquiring additional information as to the habits of animals, and the localities and descriptions of plants and minerals, &c. We have, in page 34, an account of a fern valley:

"The brook that supplies Hobart Town with water, flows from Mount Wellington, through a valley at the foot of the mountain. Here the bed of the brook is rocky, and so nearly flat, as scarcely to deserve the name of the cascades, by which this place is called. Many dead trees and branches lie across the brook, by the sides of which grows *Drymophila cyanocarpa*, a plant allied to *Solomon's seal*, producing sky-blue berries on an elegantly three-branched, nodding top. *Dianella coerulea*, a sedgy plant, flourishes on the drier slopes: this, as well as *Billardiera longiflora*, a climbing shrub, that entwines itself among the bushes, was now exhibiting its violet-coloured fruit. In damp places, by the side of the brook, a princely tree-fern, *Cybotium Billardieri*, emerged through the surrounding foliage. A multitude of other ferns, of large and small size, enriched the rocky margins of the stream, which I crossed upon the trunk of one of the prostrate giants of the forest, a gum tree of large dimensions which had been uprooted by some blast from the mountain, and in its fall had subdued many of the neighbouring bushes, and made a way where otherwise the forest would have been inaccessible. On descending from this natural bridge to examine a tree-fern, I found myself at the foot of one of their trunks, which was about five feet in circumference, and ten in height. The lower part was a mass of protruding roots, and the upper part clothed with short remains of leaf stalks, looking rough and blackened; this was surrounded by dead leaves ranging down, and nearly obscuring the trunk from distant view: above was the noble crest of fronds or leaves, resembling those of asplenium filix foemina in form, but exceeding eleven feet in length, in various degrees of inclination between direct and horizontal, and of the tenderest green, rendered more delicate by the contrast with the dark verdure of the surrounding foliage. At my feet were several other ferns of large size covering the ground, and which, through age and their favourable situation, had attained foot stocks a foot in height, crowned by circles of leaves three times that length. Other plants of tree-fern, at short distances, concealed from my view, by their spreading fronds, the foliage of the lofty *evergreens* that towered 100 *feet above them*. The trunk of one of the tree-ferns was clothed with a *Trichomanes* and several species of Hymenophyllum, small membranaceous ferns of great delicacy and beauty. On a rocky bank adjoining, there were other ferns, with creeping roots, that threw up their bright green fronds at short distances from each other, decorating the ledges on which they grew. In the deepest recesses of this shade, I could enjoy the novel scene; ferns above, below, around, without fear of molestation; no dangerous beasts of prey inhabiting this interesting island."

But though James Backhouse was thus enabled to enjoy the luxuriant beauties of nature, which the Divine hand had spread so profusely around, his active mind permitted nothing to interfere with his religious duty of visiting the various parts of the British settlements. Possessing a truly evangelical mind, unincumbered with sectarian prejudice, he united with the Christian men of every denomination who were zealous for their Divine Master's work.

"5 mo. 7, 1832. Having obtained a letter of introduction from the Lieutenant-Governor to Major Baylee, the commandant of the penal settlement at Macquarrie harbour, and other necessary arrangements having been made for our passage on board the government brig Tamar, (with convicts,) we embarked, after dining with the senior colonial chaplain, William Bedford and his family, from whom we received much kind attention during our sojourn in Van Dieman's Land. The vessel not sailing till the 10th, we spent the evening at the house of Nathaniel Turner, the Wesleyan minister, stationed at Hobart Town, in company with John Allen Manton, also proceeding to Macquarrie harbour.

"On the 8th, I paid my first visit to the prisoners, just after they had been searched, lest they should have concealed any implements for effecting their escape. After inquiring respecting their health, I told them that if they had no objection, I would read them a chapter in the Bible, and desired to know if there was any one in particular they would prefer. One of them replied, there was some very good reading in Isaiah. I opened the book, and read the 42d chapter, and at the conclusion commented upon it, pointing out the effect of sin, the object of the coming of the Saviour, and his power, not only to deliver out of darkness and the prison-house, in a spiritual sense, but also in an outward one; expressing my conviction, that if they would attend to that grace which reproved them for evil, they would be led to repentance, and into that faith in Christ, through which they would obtain forgiveness of sin, and a capacity to love and serve God; that this would produce such an effect upon their conduct, as to restrain them from evil, and enable them to work righteousness, procure them a remission of their sentence, and introduce them to peace and joy, beyond any thing of which they could form an idea while in the service of Satan, whom, I did not doubt, they had found in their own experience to be a liar, as they had been tempted by him to expect pleasure from sin, but had found in its stead trouble and loss. Several of them were attentive, and appeared thoughtful, and on taking leave, one of them placed his hand to my foot and helped me to ascend from the prison."

(To be continued.)

The History of China, Pictorial and Descriptive, from the earliest period to the present time. Part 6. By Miss Corner. London: Dean and Co.

This number introduces us to the period becoming familiar to our own diplomatists, and commences with a handsome plate of the present emperor, defending his father from an attack of assassins, and another of Ningpo, one of the five ports lately opened to our trade. In consequence of the dissipation and mismanagement of the emperor Kea-king, secret associations, called Triad Societies, were formed to overthrow the reigning family and restore the native princes. They had secret signs like freemasons, and are understood still to exist in China, ready to undertake such a revolution if opportunity offer. If the emperor had not yielded in the late war, in all probability they would have communicated their Chinese freemasonry to the English, and aided them in their warlike designs. Meanwhile the energies of the government having relaxed, the usual results followed; confusion and disorder pervaded the country.

"In consequence of the disturbed state of the empire, numerous bands of robbers infested the interior of the country, while the pirates of the Ladrone (robber) islands revived their depredations on the coast. Among these was a noted corsair, named Ching-zih, who was no less renowned and feared than the famous Koshinga had been in the time of the first emperor of the Mantchou race. This formidable chief was in the habit of levying contributions on all the merchant vessels that appeared in the China seas, he plundered the villages on the coast, and did not hesitate to engage in battle with the imperial fleet. It was strongly suspected that he received secret assistance from many Chinese merchants of Amoy and Canton, who were disaffected towards the reigning family; but whether this were true or not, he had a very powerful force at his command, and committed the most horrible barbarities with impunity.

"Ching-zih was accidentally drowned, but his death did not put a stop to the lawless practises of his people; for his widow, who might have been esteemed a great heroine in a worthier cause, took the command of the fleet, headed the rovers in all their piratical expeditions, and actually fought in several engagements with the government forces. These Amazonian qualities were combined with very extraordinary talents as a ruler; for the chieftainess drew up a regular code of laws for the government of her people, by which they were bound to act equitably towards each other; and thus order was preserved amongst them. For some time this female corsair maintained the sovereignty of the Chinese seas; insomuch that no merchant ships could navigate them in safety without a pass from her, which she granted on payment of a certain toll, and this pass protected them from any pirate vessels they might encounter on their passages. At length, disputes arose among the pirate captains; and the chieftainess, beginning to find her position a difficult one to maintain, concluded a regular treaty of peace with the governor of Canton, who was rewarded by government with a peacock's feather, the usual mark of distinction bestowed on a military or naval commander for any eminent service rendered to the state. The lady, who had assumed so unfeminine a character, withdrew from the conspicuous situation in which she had placed herself, to live in retirement; while most of the pirates, being thus left without a leader, made submission, and were received into the service of the government.

"In the year 1813, the palace of Peking was suddenly attacked by a numerous body of armed men, who forced the gates and rushed into the great hall, with the intention of seizing the emperor, and obliging him to abdicate the throne. A similar attempt had been made ten years previously, since which time Kea-king had taken care to have a strong body-guard in constant attendance; and besides this precaution, a double guard was posted at every gate; therefore it is supposed that the conspirators must have had confederates within the palace, who facilitated their entrance; otherwise there must have been a desperate struggle with the soldiers, which does not appear to have been the case. A terrible scene of confusion ensued. The princes and attendant officers surrounding their sovereign made a gallant defence; *and the present emperor*, Taou-kinang, had the good fortune to save his father's life by shooting two of the insurgents, who were in the act of rushing upon the emperor."

Amongst the numerous advantages likely to be derived by Great Britain in the treaty just signed, is the residence of an ambassador at the Chinese court, through whom all commercial and other treaties can be completed without the intervention of other parties at a distance from the seat of government. Our embassies to these extraordinary people always failed for want of a proper understanding, generally owing to some deception practised on the emperor by the mandarins, which he had no opportunity of detecting, owing to the distance of their government and the duplicity of their character.

"About three years after this rebellion, another embassy was sent by the British government to the court of Peking, to complain anew of the manner in which the trade with England was conducted at Canton. The good effect produced by the interference with Kien-long had been but temporary, for his successor, being as narrow-minded as he was weak and vicious, hated all Europeans, and suffered the Chinese merchants to impose upon them in the most unscrupulous manner. Lord Amherst, the ambassador on this occasion, proceeded to Peking by the same route that Lord Macartney had previously taken; but his reception at the various places he stopped at on the journey was very different from that given to the former ambassadors; nor did he meet with similar attention with regard to accommodation and entertainment, all which clearly indicated the unfavourable disposition of the sovereign respecting the object of the mission. In short, on the arrival of the embassy at Peking, the old dispute relative to the Ko-tou was revived, and the conduct of the ambassador was so entirely misrepresented to the emperor, that no audience was granted; and thus the English, not only failed in obtaining a redress of grievances, but were disappointed of seeing the imperial court of the Chinese empire."

Owing to the vast distance which intervenes between the tea districts and Canton, the cost of the tea is considerably increased by the expense of carriage; but as there are several ports newly opened to British trade, we may expect to have a corresponding decrease in the price of tea. The scrutiny which he emperor exercises over the officers in every epartment of his empire, might well be imiated in several particulars by sovereigns earer home:—

"A single word from the emperor is sufficient at any time to deprive the first grandee in the land of his rank, his property, or even his life; nor is it a very uncommon case for a mandarin of the highest order to enter the palace with all the pomp of a petty sovereign, and to come forth, within one short hour, loaded with chains, and stripped of every ensign of his late dignity. The governor of a province or city is particularly liable to such a reverse, from the nature of the laws, which hold him responsible for all those public calamities which are attributed to accident in other countries; as, for instance, the overflowing of rivers, the scarcity of crops in a favourable season, or the destruction of property by fire; all evils supposed to arise from want of vigilance on the part of the chief magistrates, who are required to see that all subordinate officers are attentive to their several duties. Every one holding an official situation is answerable for the conduct of those below him, and if the inferiors are negligent in their respective departments, the superiors are liable to punishment. Thus, if the country is inundated by the sudden rising of a river, the viceroy is considered in fault for not having attended diligently to the repairing of the embankments; if the crops are not so abundant as they ought to be in any particular province, the failure is attributed to the governor, in not having seen that the husbandmen were more intelligent or industrious; and again, should lives or property fall a sacrifice to fire, it is presumed that they might have been saved by more active measures; consequently, the magistrates are blamed for not keeping a more effective police, and the viceroys or governors are blamed for appointing such careless magistrates."

The beautiful specimens of Chinese cabinets. porcelain, paintings on rice paper, and other ornaments, with which we were long familiar, must lead us to suppose that the private houses in China are decorated with many beautiful ornaments, and that much taste is necessarily displayed in their arrangement. Of this the work before us gives ample proof:—

"The houses of the wealthy are built, like those of the Egyptians, within a court, surrounded by a wall; consequently they are not visible to the passers by; but those of government officers are always known by two red poles which are set up before the gate. The handsomest dwellings are those which consist of a number of separate buildings or ranges of apartments, all on the ground floor. The principal entrance is threefold; namely, by a large folding door in the centre, and a smaller one on each side, at which hang two handsome lanterns, inscribed with the name and titles of the master of the house. This entrance leads to the saloon, where visitors are received, which is usually the first of a suite that may be called the state apartments, since they are chiefly used for the reception and entertainment of distinguished guests. They are elegantly and commodiously furnished, for the Chinese are not deficient in taste, nor do they spare expense in the interior decorations of their houses, which are often fitted up in a very costly style. The walls of the best rooms are generally adorned in different parts with scrolls of white silk or satin, hanging from the ceiling to the floor, on which are imprinted in large characters, maxims and moral sentences extracted from the ancient sages, which are considered far more ornamental than the finest paintings. Many of these sentences bear a close resemblance to the Proverbs of Solomon. Their chairs, which, it may be remarked, are articles of furniture not used by the natives of Asia, are rather clumsy and heavy in appearance, but they are made of a very beautiful wood which grows in China, and is not unlike rosewood. They are all made with arms, and sometimes are furnished with silk or satin cushions and hangings for the back, embroidered by the ladies of the family, who devote a great portion of their time to needle-work. Japanned cabinets and tables, with a profusion of porcelain jars and other ornaments, are always seen in a Chinese drawing-room; but none of these are so striking or so characteristic as the lanterns, suspended by silken cords from the ceiling, and ornamented with a variety of religious designs. In any civilized part of the world, we may find Indian cabinets and porcelain vases, but the lanterns are exclusively Chinese, and are very showy specimens of the national taste and ingenuity. They are made in every form that fancy can invent, and of all sizes, from the small ones carried by pedestrians at night, to those that illumine the halls of the great, the latter being sometimes eight or ten feet in height, and three in diameter. The most costly are composed of transparent silk, adorned with landscapes, birds, flowers, and fanciful devices in colours of dazzling brightness; the frame-work being richly carved and gilt, and the cords and tassels by which they are suspended. made of silk and gold thread. The possession of fine lanterns is a sort of passion among the Chinese, many of whom spend considerable sums in the gratification of this fancy. The *Feast of Lanterns*, which takes place almost immediately after the celebration of the new year, is a festival of ancient date among the Chinese, and is the occasion of a most brilliant and beautiful spectacle. On the 15th day of the first moon, every city, village, and hamlet, throughout the country is splendidly illuminated with an infinite variety of these beautiful lanterns, which are hung up at every house, from the palace of the viceroy to the hut of the humble fisherman, the general feeling being a desire on the part of each to outshine his neighbour. The tradition respecting this festival is, that the wife of an emperor of one of the early dynasties being extravagant and fond of pleasure, chose to have the palace illuminated every night with a thousand lights, which might supply the place of the sun, and keep up a perpetual day within her abode. This legend, which refers to a period antecedent to the era of Confucius, may be received as an evidence that the Feast of Lanterns was celebrated in China in very ancient times; but its real origin, like that of many other Chinese customs, is lost in obscurity, nor is it likely ever to be discovered. The illumination is continued for three nights, and is attended by a grand display of fireworks, in which the Chinese excel all other nations. Many of the lanterns, made purposely for these occasions, exhibit moving figures, such as huntsmen on horseback, galloping round, ships sailing, troops of soldiers marching, or people dancing, all kept in motion by some ingenious contrivance not visible to the beholder. These are seen only at the houses of the rich mandarins, and, of course, attract vast crowds of spectators. The chief part of the many thousands of lanterns manufactured expressly for this festival are of horn, or a very strong transparent paper, made in the Corea, which is used in most parts of China instead of window glass; but even the commonest of them are elegant in shape, and gaily decorated; so that, altogether, the effect of the illumination must be very brilliant. Even the poor fishermen who dwell on the sea-shore, and those who live in boats on the rivers, will bestow as much as they can possibly spare of their hard earnings for the purchase of a fine lantern to exhibit on this festive occasion, so that even the waters are illuminated; and as the towns and villages are neither few nor far between, the spectator, placed on any eminence, beholds, on all sides, an illuminated panorama of the country. During the festival, the gates of the cities are left open at night, that the country people may enjoy the pleasure of seeing the illuminations."

Hydropathy. The Theory, Principles, and Practice of the Water Cure, shown to be in accordance with Medical Science, and the teachings of Common Sense; illustrated with many important Cases. By Edward Johnson, M. D., author of Life, Health, and Disease. With nine engravings. London: Simpkin, Marshal, and Co.

The celebrity which Dr. Johnson has acquired by his former volume, will entitle his present work to a friendly perusal by medical and non-professional men. The sincerity of his views on the subject of hydropathy cannot be called in question, when we find that he has given up a lucrative practice and devoted himself to that of the new system. His account of the change in his views he thus describes:—

"About five years ago, I published a treatise, entitled, 'Life, Health, and Disease.' I little thought, while writing that treatise, that there was a primitive philosopher, in the person of Priessnitz, who was, at that very moment, actively engaged in *reducing to practice* all the great *principles* laid down by me in that very treatise, and demonstrating the truth of my views by a degree of success unparalleled in the history of disease and its treatment. In the November of last year (1842) that work fell into the hands of Captain Claridge, to whom England is indebted for the introduction of the water cure into this country. Observing that the opinions and arguments therein contained are highly favourable to the hydropathic treatment of disease, and in strict and curious concordance with all the leading principles of the Graefenberg method of cure, and being struck with the remarkable fact that these opinions of mine, (deducted from general reasoning on the nature of animal life, and the causes of disease,) were conceived and published by me some years before the water cure had ever been heard of in England, Captain Claridge did me the honour to call on me. The result of that interview was, that I immediately started for Graefenberg, where Priessnitz, the founder of the water cure, has his establishment, and the present work was written on the spot. The object of my journey, however, was not merely to collect cases, that having already been done by others. But it was first, to determine whether the reports in circulation concerning the great success of the treatment, were founded on fact; secondly, to ascertain the effects of that treatment, not only on the patients of Priessnitz, but on my own person, and on the persons of three other gentlemen, (patients of mine,) who, having determined on a Continental tour somewhere or other, were kind enough to accompany me to Graefenberg for that purpose. Thirdly, having watched the effects produced on myself and friends,—having, moreover, examined with my own eyes whatever cases Priessnitz might then have under treatment, (of which I found more than 200.) having ascertained the nature of their several diseases by personal inspection,—and having watched the effect of the treatment upon those diseases, (for which purpose I remained the whole of the winter,)—having made myself thoroughly acquainted with all the different modes of applying the remedy adopted by Priessnitz in the various diseases under his care, my farther object *then* was to see how far it was possible to *reduce the practice to principle*,—to ascertain whether the practice could be reconciled with those facts which modern science has revealed, and with the opinions which scientific men of the present day entertain with regard to the nature of living beings, and the nature and causes of diseases in general. And, in attempting this, it will be observed that I have not referred to second-rate and obscure writers, nor have I raked up from oblivion the crude opinions of a by-gone age, but I have selected the most celebrated and the most modern, Liebig and Billing. In a word, my principal object was, not so much to multiply reports and reiterate facts, but to give reasons; and the result of my observations will be found in the following pages. But whether I have succeeded or *not*, in this task of reconciling practice with principle, still there stand the facts. All I have pretended to do is to show that the practice of hydropathy can be as easily reconciled with the existing theories of life, health, and disease, as the practice of *medicine* can; and this, I conceive, is all that can possibly be required of me. But I will be bold enough to add, that nothing can be easier than to show that the practice of medicine is perpetually seen, running full tilt, in the very teeth of its own fundamental principle, which hydropathy *is not*. With regard to the danger supposed to attend this remedy, nothing on earth can be more purely chimerical, supposing always that it is practised by *competent persons*, who understand both the nature of the animal machine, the nature and seat of the various diseases to which it is liable, and the nature of the effects which the treatment produces."

We are particularly pleased with the candid manner in which the author advances his views. He does not assume that he is right and that every one else is wrong, or that the hydropathic treatment *alene* can cure all diseases, or that medical practitioners should all at once give up the practice of medicine, without having studied under an experienced hydropathist, leaving the patient to expire in the interregnum between the desertion of medicine, which we all know to be so valuable and successfully applied, and the reign of ignorance of the hydropathic principles. He thus expresses himself on this subject:—

"The great, and, as I believe, the only objection to the hydropathic treatment is, that it costs a good deal of both time and trouble. It is, therefore, in a country like this, where time is money, a very expensive treatment. On this account, *it is never likely* to become the treatment first resorted to at the onset of disease. Its legitimate sphere of action therefore is, and must remain, amongst those diseases which have *already resisted* the ordinary treatment, as a *dernier ressort*, and amongst those other disorders over which it is allowed that medicine possesses scarcely any control; such as chronic gout, chronic rheumatism, nervous disease, indigestion, scrofula, painful affections of the nerves, general debility, (and local disease depending upon it,) leucorrhoea, skin diseases, and multitudes of anomalous affections to which medical nomenclature can give no particular denomination; in a word, all depraved conditions of the general health, all functional derangement, all deficiencies of action in any one of the vital organs, for which no specific cause can be assigned. I, for one, am quite willing to confine my practice to this class of diseases: and any patient of mine (who may desire to do so) shall be at liberty, as often as he pleases, to consult his ordinary medical attendant, in conjunction with myself; since I am not only willing, but desirous to act *with* the profession, and *not* against it. Having no mystery to be exposed, and no secret to be concealed, and satisfied that the hydrotherapeutic method can never bestow on the public all the benefit of which it is capable until it shall have been examined and acknowledged by the profession at large, (for it is through them that it must come to the public,) I am anxious to practise it under the eye of that profession, in order that medical men may have a fair opportunity of ascertaining in what diseases it is useful, and in what not so: to the end that society may be enabled to derive from it, as soon as possible, *all* its advantages, be that *all* little or much."

The reconcilement of the physiological theory of the human body with the effects of the cold water applications, occupies a considerable portion of the volume, and we think that the reasonings of Dr. Johnson receive much support from the theory of Liebig on this subject. The nervous system, deprived of its caloric by the application of cold water, both externally and internally, acts with greater energy to reproduce the necessary quantity of caloric; this exertion imparts additional power and vigour to the nervous system, and through this to the whole muscular frame. This is half the secret of the cold water cure. Those who are constantly exposed to the changes of the weather, are so many examples of the benefit of the hydropathic principle: the sailor rarely gets cold, though constantly exposed to the action of both fresh and salt water, because his nerves are kept in a contiuual healthy struggle to preserve the natural temperature of the body. The landsman is less vigorous, because his body is less constantly exposed, and therefore less vigorous in maintaining its healthy character, and for this reason he suffers more from frequent exposure to the elements. The calorific system of the human body is very clearly and satisfactorily exhibited in the latter part of the volume:—

"It is a fact, perfectly well ascertained, that the temperature of the blood of man is the same all over the globe; and in the temperate latitudes, in winter as in summer. Whether a man inhabit the arctic circles, or broil away his life under the vertical suns of Africa, the mean temperature of his blood is always the same 99.5°. Nay, if he be put into an oven, heated to a degree of heat sufficient to roast a joint of meat, it has been found that his temperature is not raised above the ordinary temperature of children, 102°. Yet, 'the animal body is a heated mass, which bears the same relation to surrounding objects as any other heated mass. It *receives* heat when the surrounding objects are hotter, it *loses* heat when they are colder, than itself.'* We know too that the rapidity with which a heated body cools, will be in proportion to the degree of coldness of the medium with which it is surrounded. The body of an Esquimaux, therefore, must cool, that is, must give out heat to the surrounding atmosphere with infinitely greater rapidity than the body of an inhabitant of a warm climate. Yet the temperament of an Esquimaux's blood stands as high as that of the Hindoo. These facts demonstrate that there must be some process going on within the body, by means of which animal heat is reproduced as fast as it is consumed. What are these means? Again, under ordinary circumstances a man consumes about two pounds of solid food *daily*, or seven hundred and thirty pounds in one year. Yet at the end of th year, he is no heavier than at the beginning With the insignificant variation of some two o three pounds, his weight remains the same In addition to the food, an ordinary man take into his system *daily*, 46.037 cubic inches, o 15.661 French grains, that is, in whole num bers two pounds by weight, of oxygen fro the atmosphere. That is to say, there a added to his system, every year, seven hundr and thirty pounds of oxygen, which, added the yearly amount of food, make a yearly a dition of fourteen hundred and sixty pounds solid matter. Yet, at the end of the year, is no heavier than at the beginning.

(To be continued.)

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* Liebig.

Peter Parley's Works. Wit Bought; or, The Life and Adventures of Robert Merry.
Cheerful Cherry; or, Make the best of it.
Persevere and Prosper; or, The Siberian Sable-Hunter. London: Darton and Clarke, Holborn-hill.

The name of the publishers would be a sufficient guarantee for the unexceptionable character of these juvenile works, and would furnish them with a passport into all good society. For a long series of years this house has been distinguished for the care which they have bestowed on the moral tendency of the publications, which they have ushered into the world, nor has time deprived them of justly-earned merit. The present series are compiled with much care, and throw light upon the manners and customs of different nations, conveyed in a pleasing and simple style. They are illustrated by a great number of very good plates of animals, &c., and may be perused with advantage by those in more advanced years. A continuation of the series is also promised. The Siberian Sable-hunter describes the adventures of the son of a noble Polish exile, whose father was banished to Siberia, for the part which he took in the ineffectual struggle for liberty against the Russians in 1830. The son and daughter followed him into exile, and being reduced to poverty, in common with all the condemned unfortunates, the son, named Alexis, joined a party of hunters, to endeavour to procure some new means of support. His adventures in these dreadful regions are described with stirring effect, and his battles with hungry wolves and bears add much interest to the narrative. In describing the valuable mines of Asiatic Russia, Linsk, the leader of the hunters, related to our hero, Alexis, the following allegorical tale:—

"There was once a young nobleman of Russia, who was exiled to Siberia, for some offence to the Czar. This happened in the time of Paul, near forty years ago. Well, when he came to Tobolsk, he was very poor, so he considered how he might get money, and become rich. He heard of the mines in the mountains, and thither he went. He was careful, however, not to let any one know his plan, He went at first to the Kolyvan mountains, but, as there were a great many people at work there, he was afraid of being detected in his scheme, so he proceeded farther east, until he came to a tall mountain, called the Schlangenberg, which is the loftiest of the Altai range. When he had got up to the very top of the mountain, being weary, he laid himself down to get some rest, and here he fell asleep. While in this state, a man, in the dress of a Tartar, seemed to stand before him, and making a low bow in the eastern fashion, said, 'What wouldst thou, sire of a noble house?' To this the young Russian replied, 'Wealth, give me wealth: with this I can purchase my liberty, and return to Moscow, and live again in happiness. Give me riches: with these I could buy the very soul of the emperor, for all he desires is money.' When the young man said this, the figure smiled on one side of his face, and frowned on the other; but he answered blandly, 'Your wish shall be granted; follow me!' Upon this the Russian arose and followed the mysterious stranger. They descended to the foot of the mountain, and entered a cave which was formed by nature with rocks. It seemed at first a dark and gloomy place, with grizzly images around, and a fearful roar as of mighty waterfalls tumbling amid the gashes and ravines of the mountain; but as they advanced farther the scene gradually changed. The darkness disappeared, and at last they came to a vast chamber, which seemed glittering with thousands of lamps. The room appeared indeed like a forest turned to crystals, the branches above uniting and forming a lofty roof, in the gothic form. Nothing could exceed the splendour of the scene. The floor was strewed with precious stones of every hue, and diamonds of immense size and beauty glistened around. As the adventurer trod among them, they clashed against his feet, as if he was marching amid heaps of pebbles. Around there were thousands of lofty columns of a pearly transparency, which seemed to send forth an illumination like that of the moon, and these were studded with garnets, and emeralds, and rubies. The Russian was delighted—nay, entranced. He walked along for more than an hour, and still the vast room seemed to expand and grow more gorgeous as he proceeded. The diamonds were larger, and the light more lovely, and by and by there came to his ear a sound of music. It was faint, but delicious, and our hero looked round for the cause of it. At last he saw what seemed to be a river, and on going to the edge of it, he discovered that it was a stream of precious stones, where garnets and beryls, and diamonds and emeralds, and rubies, flowed like drops of water, in one gushing, flashing current; and as they swept along, a sort of gentle but entrancing melody stole out from them, and seemed to melt the heart with its gentle tones. 'This is indeed most lovely, most enchanting!' said the youth to himself. 'Well, and truly has my guide performed his promise;' saying this he looked around for his guide, but he had disappeared. The young man waited for a time, but the wizard did not return. At last he began to feel weary, and looked about for a place to lie down; but no such place appeared. The floor of the mighty hall was covered with precious stones, but they were so sharp and pointed, that they would have cut his flesh, if he had attempted to lie upon them. Pretty soon, hunger was added to the young man's wants. But how could he satisfy it. There were emeralds, and rubies, and sapphires, and diamonds, but neither meat nor bread. At last he turned round, and began to search for the way out of the grotto, first filling his pockets with the richest and rarest gems he could find. But the more he sought for the passage, the more remote he seemed to be from it. He, however, continued to wander on, but all in vain. In a short time he became frantic; he threw up his hands, and tore his hair, and ran fiercely from place to place, making the lofty arches ring with his frightful screams. 'Take your gold, take your jewels!' said he, 'and give me rest, give me bread. 'Give me rest, give me bread,' said a fearful echo, sounding through the vaults of the cavern, and startling the ear of the bewildered youth. Repeating his cry by day and by night, he continued to run wildly from place to place; and though forty years have rolled away since he entered the enchanted cave, it is said that he is still there, and is still unable to obtain rest or appease his hunger! 'Is that all?' said Alexis, as the hunter paused in his narrative. 'Yes,' said Linsk, 'and let it warn you and all others not to go into the mountain, to steal the gems and the gold that belong to the emperor.' 'The story is a good one,' said Alexis; 'and no doubt it has been used to frighten people from interfering with the emperor's mines; but it is an allegory, which bears a deeper meaning to my mind. It teaches us that riches cannot bring rest or health, and that a person surrounded with gold and gems, may still be a most wretched being. Those very gems, indeed, may be the cause of his distress, when they have been obtained by crime or avarice, or other unlawful means.'"

Literary & Scientific Meetings, &c.

BRITISH ASSOCIATION.

PROCEEDINGS OF THE GEOLOGICAL SECTION
(Continued at length.)

Friday, Aug. 18, 1843.

Mr. Griffith read his paper on the lower portion of the carboniferous limestone of Ireland. The subject was illustrated by numerous drawings and sections, made from the Ordnance maps, at particular places, and which were hung up round the room for reference, during the reading of the paper.

At the Manchester meeting he brought forward a paper on the carboniferous limestone series of Ireland, and endeavoured to prove by their fossil contents, that the several groups into which he had subdivided the series, did really form one general group.

The subdivisions by his arrangement descending are—

1. The upper limestone,
2. The limestone shale or calp,
3. The great or lower limestone,
4. The carboniferous slate,
5. The yellow or lower carb. sandstone.

1. Of these, the first member, or upper limestone, forms the base of the millstone grit; its average thickness is about 600 feet. It consists of light grey limestone, alternating near the top with grey flinty slate, and occasionally dolomite. The lower beds frequently contain disseminated rounded masses of grey and black lydian stone. It presents numerous mural escarpments, many of which are cavernous. It is very fossiliferous, and the fossils correspond nearly with those of the carboniferous limestone of England, though there are many peculiar to it.

2. The calp is distinguished, as presenting a succession of beds of dark grey shale, alternating with dark grey impure argillosiliceous limestone. This group, when perfect, is separable into three parts, the upper and lower shales, and an intervening yellowish-grey sandstone. The average thickness of the whole may be about 1000 feet, though in some localities it amounts to 1800 feet. It contains numerous fossils—those found in the finer shale beds differ from the upper limestone, the most characteristic being several varieties of posidonia.

3. The great or lower limestone occupies a large portion of the surface of Ireland. Its colour varies from light to dark grey, and its structure is usually less crystalline than the upper. The lower beds are frequently dolomitic and occasionally oolitic. This group is more abundant in fossils than either of the foregoing, and contains nearly the whole of those in the two upper members of the system, with the exception of posidonia. The average thickness of the lower limestone may be about 1000 feet.

The foregoing is the whole of what was formerly considered the carboniferous limestone of Ireland, the strata below this being included in the old red sandstone; but in his paper of the preceding year he was enabled to show, by comparing the fossils in the strata below the limestone with those above, that they must be attached to the limestone, and not to the Devonian system.

These lower members have been subdivided into two, the carboniferous slate, and the yellow sandstone.

At Manchester he described the peculiarities and the fossils of the carboniferous slate, and showed that 274 species of fossils had been discovered in it, of which 262 are common to the upper members of the limestone series, and 65 common to Devon. He did not then bring forward any new matter relative to this group, but described the discoveries made in the yellow sandstone within the preceding year, which are extensive, and show that it contains many new fossils, though by much the greater part are also common to the upper members of the system.

At Manchester he stated that the fossils he found in the whole system were 568, of which 166 were new, and 287 common to the mountain limestone of Great Britain.

This year, the Ordnance Geological Memoir of part of the North of Ireland, by Captain Portlock, has been published.

This work contains several new fossils belonging to the carboniferous limestone, many of which have since, and even before, been found by Mr. Griffith in localities different from his. Mr. G. had figured some of those before his book appeared; and even lithographed some, and presented the prints to the Geological Society of Dublin, which Captain Portlock has republished under new names.

He has since collected and figured 193 new species, many of which are from the yellow sandstone, some from the red shales and from the red sandstones, which he had hitherto considered as the old red sandstone. The whole list, as he has it at present, contains 925 species, without fishes or plants, of which 359 are new, and have been figured and described, exclusive of Captain Portlock's new species.

The lower portion of the carboniferous system of Ireland, to which he has given the name of yellow sandstone, to distinguish it from the red sandstone, or old red, which lies beneath, is much more fully developed in the North of Ireland than in the South. Some very fine sections may be examined in detail on the north coast of Donegal bay; also on the northern shore of the lower Lough Erne, N. E. of Pettigo; between Balderig bay and Killala, in the county Mayo; the valley of Ballinascreen, near Maghera, in the county Derry, and many other localities.

First, in examining the section near Ballycastle, in Mayo, we find the micaceous quartzite, belonging to the mica slate of Erris, succeeded unconformably by strata of red sandtone, rather finegrained, alternating with red and dark green slate, and occasionally with yellowish-grey sand and impure grey limestone. These beds are 650 feet thick. The dark grey shales and limestones contain fossils. The shales contain cytheræ, modiolæ, nuculæ, cypricardiæ, &c., many of which are peculiar to them. The limestones contain the usual brachiopodæ and corals, which are found in the upper members of the series.

Ascending, beds of dark grey limestone, frequently arenaceous, occur, alternating with dark grey, red, and green shales, and grey sandstones, the slates containing the same fossils as before. These alternations are 300 feet thick, the limestone being about one-third of the whole.

Still ascending, we have a series of beds of arenaceous limestone, some of which are burned for lime, amounting to about 100 feet. From these beds 108 species of fossils were collected, of which 96 are common to the upper members of the carboniferous limestone of Ireland. The most numerous are productæ, orthis, atrypa, &c.

These limestones are succeeded by beds of dark grey shale, grey and yellowish sandstone, and some thin beds of impure limestone, about 360 feet thick. The shales as usual containing fossils, that called modiola Macadami, Port., being abundant, with some fish scales and teeth, and plants. These shales are succeeded by beds of yellow sandstone.

On the western shore of Killala bay, the yellow sandstone of Kilcummin head is succeeded by beds of slate, belonging to the carboniferous slate, or lower limestone shale, which are at once recognized by the absence of sandstone, and the abundance of corals, particularly by several varieties of fenestella, which are very rare in the shales beneath. These corals may be considered characteristic of the carboniferous slate.

Here, on the north coast of Mayo, in the yellow sandstone, is a thickness of strata, amounting to 1460 feet, from the bottom of the red sandstone to the carboniferous slate, the whole of which contains fossils, with the exception of the hard beds of red and grey sandstone, which, with few exceptions, are devoid of organic remains, whether at the base or top of the series.

The question then arises, can we separate the lower portion of the section, which assumes a red colour, but which is quite conformable, from the upper, when it is remembered that it contains in the grey shales and limestones, which alternate with the sandstones, more than three-fourths of the same fossils that are found higher up in the carboniferous limestone.

The next is the section to the N. E. of Lough Erne. It extends from the mica slate district of Donegal, north of Pettigo, across the limestone and sandstone valley of Pettigo, Kesh, and Ederney. It afterwards traverses the brownish-red conglomerate and sandstone of Lisnarick and Irvinestown, and in continuation the dark grey slate district of Lisbellaw, which contains silurian fossils, from whence it is continued across the limestone valley of Brookborough, over the Slievebeagh mountains, and terminates in the Greywacke slate district of the county of Monaghan; thus exhibiting the structure of the country for a distance of forty-two miles.

Another section is at the mica slate of Dooish mountain, county of Tyrone, and extends eastward, traversing the great district of brownish-red sandstone and conglomerate, and in continuation the carboniferous limestone series of the valley of Clogher, then crossing the Slievebeagh mountains, and terminating in the old slate at Newbliss, in the county of Monaghan.

These sections have been made with great care, and laid down by scale from the Ordnance Survey, and the rock boundaries and dips from observations made for the purpose.

The district through which these sections pass is much disturbed by greenstone protrusions, dikes, faults, and undulations, which frequently derange the usual strike as well as the dip of the beds, which gave much additional trouble in making the sections. Mr. Griffith was induced to mention these circumstances, owing to differences which are observable between Captain Portlock's map and his, in the district N. E. of Lower Lough Erne, and likewise between his section and Mr. G.'s through the same district. Mr. G.'s map and sections were made previously to the publication of the Ordnance memoir, but have been subsequently revised, in consequence of the discrepancies alluded to. During this re-examination he found it necessary to make several alterations in the detail of his original map, which he believes to be now as correct as the difficulties in which the geology of the district is involved will allow. When the nature of the country is considered, it is not surprising that discrepancies should occur between two distinct geological maps made by different persons.

Commencing at the north end of the most westerly of these sections, the mica slate is covered unconformably by a bed of red conglomerate, about 50 feet thick, which is succeeded by yellow sandstone, alternating with dark grey shale and occasional beds of dolomitic limestone. The shale contains the casts of plants, and also, in abundance, modiola Macadami. These strata are about 150 feet; next are alterations of dark grey shale, grey sandstone, and occasional beds of calcareous clay ironstone 60 feet thick; then comes a series of beds of limestone, sometimes alternating with dark grey shale and yellowish-grey sandstone, 300 feet in thickness. A bed of coal half an inch thick is included between two of the limestone beds, at the base of this division. The limestone is often dolomitic, and, as is usual in such cases, fossils are rare.

Next comes a succession of beds, consisting of alternations of limestone and dolomite 100 feet thick, followed by alternations of dark-grey impure limestone and black and grey shale 300 feet; on top of which are beds of grey siliceous limestone 60 feet. These calcareous strata are followed by an accumulation of beds, consisting of grey sandstone and shale, each predominating betimes, the whole interspersed with occasional beds of impure limestone, amounting altogether to 700 feet. The shale contains modiola Macadami, nuculæ, pectens, &c.

These are followed by others very similar, excepting the predominance of sandstones. In the lands of Formil, near the base of this group, is a bed of highly carbonaceous shale, with two inches of bituminous coal in the sandstone. In Drumcurren, on the left bank of the river Bannagh, numerous perfect casts of the scales of Holoptychius Portlocki occur, with modiolæ, plants, &c. Above the fish scales, and approaching the lower limestone, the shales contain fenestellæ, accompanied by turbinolia fungites, &c., indicative of the carboniferous slate; but owing to the unusual abundance of sandstone which accompanies the shale, it is impossible to draw the line of separation between the yellow sandstone and the carboniferous slate. The thickness of the upper portion may be about 1200 feet, thus making the whole series about 2900 feet. This last rock is succeeded by the limestone; its thickness being about 700 feet, and this again by the calp.

Near Lisnarick, in the line of section, the calp series rests unconformably on brownish-red conglomerate, forming a portion of the great district, chiefly composed of alternations of that rock, and brown micaceous shale and sandstone slate, which occupy parts of Tyrone and Fermanagh, and which at Pomeroy and at Lisbellaw is connected with the silurian rocks. In the line of section from Lisbellaw, fourteen miles is occupied by those rocks. At Lisbellaw the silurian rocks are succeeded unconformably by yellow sandstone, which is followed by the carboniferous slate, and this again by the lower limestone, calp, and calp sandstone of the Slievebeagh mountains, from beneath which, in an eastern direction, is found the outcrop of the lower limestone and carboniferous slate, appearing at the surface in the valley of Monaghan, and terminating unconformably on the old slate which bounds that valley to the east.

The most important part of this section is that to the west of the brownish-red conglomerate district. In this is found the same succession of strata as on the north coast of Mayo, the same alternations of sandstones, shales, and impure limestones at the base, succeeded by shales and sandstones and their beds of limestone, each part of the series producing the same fossils, that is, the limestones above and below producing the same forms, the shales upper, middle, and lower also producing similar fossils and plants. Hence, no doubt can be entertained of the propriety of including both in one series, the whole being followed by the great lower limestone.

Mr. G. observed that his views of the succession in the Kesh district, do not correspond exactly with Captain Portlock's, as he supposes that the limestone at Pettigo, in the west, is raised up to the surface again near Lisnarick; but from a careful observation of the dips of the sandstone, which bounds the limestone north and west, Mr. G. has no doubt that it underlies it, having seen the two rocks in contact in several places; and, further, that the sandstone, shale, &c., does rest conformably upon the impure limestone of Pettigo, as represented in his section. In fact, the succession of the strata in this locality is so exactly similar to the north of Mayo and other localities, which he will mention hereafter, that it is quite unnecessary to seek for disturbances to account for the succession as the strata appear at the surface.

(To be continued.)

SCIENTIFIC AND LITERARY CONGRESS OF ITALY.

A society similar in its objects to the British Association, has been formed in Italy. The meeting for this year was held last month at Lucca, at which upwards of four hundred of the most distinguished of the *literati*, and scientific men of Italy, and many foreigners, assisted. Although we be not able to give a detailed account of the proceedings, still, the fact of such a meeting having been held, is interesting; and the following extract of a letter just received, contains matter we do not hesitate to communicate to our readers:—

Lucca, 25th Sept., 1843.

"We are all in a bustle here, in consequence of the meeting of the Scientific and Literary Congress, at which upwards of four hundred of the most eminent of the literary and scientific savans, from all parts of Italy, attended, and which has given a life and animation to Lucca perhaps never before experienced.

"The Prince of Canino (Lucien Bonaparte), presided in the Zoological Section; and Prince Louis (his brother), attended that of Chemistry, both eminently distinguished for scientific acquirements. The meeting was excellent, and, independently of science and literature, peculiarly interesting, inasmuch as the learned from all the States of Italy were congregated together, and Italy became, as it were, one nation. The most perfect harmony and good feeling prevailed.

"I shall not attempt any lengthened statement: one so unused as I am to describe matters of this kind, is incapable of doing so well; but the whole proceedings and arrangements will no doubt be published, and, if you desire it, shall be sent you.

"A circumstance, however, took place, so interesting to Irishmen and Irish literature, that I cannot omit mentioning it. The Prince of Canino, President of the Zoological Section announced the recent publication of a work entitled 'Etruria-Celtica,' by which the identity of the Etruscan language, with the Hiberno-Celtic, had been ascertained and established. The Prince said that it was a favourite notion of his late father (Lucien Bonaparte) that the Etruscan was Celtic, which opinion was also held by many other learned men of Italy, but hitherto they possessed no means of ascertaining the fact; now, however, it has been satisfactorily established.

"For this most singular and important discovery we are indebted to Sir William Betham, of Dublin. All lovers of ancient history must take a great interest in it, but Italy more than any other country, because it will further develop those treasures of Etruscan literature and antiquities which the excavations beneath her surface have already brought, and are daily bringing to light.

"The discovery of these inscriptions has hitherto awakened an interest, only to terminate in feelings of baffled inquiry and disappointed hope. The Tables at Gubbio, the Perugian Stone, and the several sepulchral inscriptions, remained a sealed book; all attempted explanations condemned themselves; nor has a clue to their true meaning been afforded until now. A new era opens, a rational and intelligible interpretation is given, and an adequate motive for the formation of these tables is supplied, viz., to commemorate the wonderful achievements and discoveries of the mariners of antiquity.

"The Prince of Canino proposed an adjournment of his section to the house of a member, where Senor Lioziati translated and explained several passages of the Etruria-Celtica to the Venerable Ingherami, Valeriani, Vermiglioli, and others, who have so long laboured in the fields of Etruscan literature, without any clue to the meaning of the inscriptions, which, now fortunately being supplied, gives a double zest to their labours.

"Prince Louis Bonaparte declared his intention of studying the Irish language."—*Evening Mail, Oct. 9th*, 1843.

ROYAL POLYTECHNIC INSTITUTION.

On Thursday night there was a private exhibition of the wonders of Armstrong's Hydro-electric machine, the powers of which far exceed any thing ever before shown. Previous to the experiments, the lecturer, Mr. Backhoffner, gave a succinct account of the accidental discovery in 1840, by a workman at Newcastle, that when a steam boiler was discharging its steam, a large quantity of electricity was produced by the friction, probably of the steam and water against the valve and tubes. The workman thrust his hand into the steam, and received a severe shock for which he could not account. Mr. Armstrong, however, applied himself to a series of experiments, proving that the workman received an electric shock, and that the common steam was capable of producing a larger and more powerful stream of electricity than any other apparatus. The machine exhibited on Thursday night was nothing more than an ordinary steam boiler with a few metal points added to the top, the more effectually to produce the negative electrical state to which the machine was brought, when the steam was discharged. The pressure of ninety pounds on the square inch had been in practise found the best for all experimental purposes; and with this pressure the machine produced effects, compared with which, the very large electrical machine, heretofore exhibited at this institution, was powerless. Instead of sixty spontaneous discharges in a minute, the hydro-electric machine produced one hundred and forty; and filled Leyden jars, having eighty square feet of tinfoil, in twelve seconds, whilst the former machine filled them only in fifty seconds. A constant stream to all parts of the boiler was kept up, and with this increased power it may well be supposed that all the former electrical experiments were greatly increased in magnificence. The passage of the electricity over the tinfoil on the tubes was far more brilliant, and the aurora borealis exceeded in intensity and in beauty any thing we had ever witnessed; the violet colour was brighter, and at the same time deeper, and the exhausted receiver showed more plainly the progress of the electric spark. Five discharges were taken consecutively from the battery over beaten metal placed upon paper, in a less space of time than could possibly have occurred by the aid of any electric machine hitherto made. Nor were the experiments confined to those already performed, increased though they were in brilliancy. The electricity was passed through and ignited common wood shavings, and what has always been denied, an electric spark easily and immediately ignited loose gunpowder; of so much worth are long received theories when put to the test of powerful machinery. The lecturer well observed, that with such a power yet unworked in experimental philosophy, it was impossible to say what other new facts might be brought to light. The former electrical machine was most surprising in the effects it produced, but this will far outstrip in interest all former machines. The evening was closed by an exhibition of an opaque microscope, the work of Mr. Longbottom, the secretary; and some of the heads from the medallions or plaister casts were flung upon the wall with much beauty of outline and great depth of shadow. The electric experiments, however, occupied so much of the room of the lecture theatre during the recent course, that there was not a fair trial of the microscope, and many of its most glaring defects will doubtless be easily remedied.

Ireland.

THE EARL OF ROSSE'S GREAT TELESCOPE.

This magnificent instrument progresses towards perfection. The vastness and size of the various parts of the machinery necessary for its mounting requires a considerable time for their preparation We cannot be surprised at this circumstance, when we consider that the first reflecting speculum or mirror weighs sixty hundred weight. We refer our readers to No. V. of our Journal for the particulars respecting the component parts of the metallic specula, mode of casting, supposed powers, &c. The present position of the work is as follows, viz :—

The large tube fifty-two feet long is fixed between the walls. The castings are all made for raising or lowering the tube to the position required. The tool for grinding and polishing the speculum is put on a large lathe to give it the proper figure, and for giving the final grinding and polishing. The galleries for observations are nearly completed. The telescope will be completed and fit for use about the end of the year.

Newly Discovered Lead Mine.—" A valuable Lead Mine has lately been discovered on the estate of Mr. Cole Hamilton, County Tyrone." We have seen a specimen of the ore, which is the sulphuret of lead, and may produce, perhaps, seventy per cent. of the pure metal. This is much above the usual average, and we hope that it may prove a mine of wealth to the country as well as to the possessor.

Natural History.

GYMNOTUS ELECTRICUS,

OR ELECTRICAL EEL.

Two beautiful specimens of this singular animal, arrived on Tuesday evening at the Adelaide gallery, brought by the brig Romance, Captain Skeorh, from Para, in South America, where they were caught in one of the tributary streams of the Amazon. They are each about two feet six inches in length, and appear to be male and female, if we may judge by the difference in their colour, one of them being nearly the same throughout, with the exception of the abdomen, while the other is studded with beautiful spots. They have been purchased by the proprietor of the Adelaide Gallery, and will, we presume, have their powers tested, as soon as they have recovered from the effects of their sea voyage. Three of them were, we learn, shipped, but the largest died during a gale of wind which occured whilst the vessel was off Tor Point; the two survivors appear healthy, and will, no doubt, afford much amusement to the public, as well as ample field to naturalists for studying the habits of those singular creatures. As it will doubtless prove interesting to our readers, we insert the account of the celebrated traveller, Baron Von Humboldt, as to the singular mode in which the American Indians capture these animals.

" The rivers and lakes of the low provinces of Venzuela and the Caraccas abound with the Gymnotus Electricus, or Electric Eel, called *temblador*, by the Spanish colonists, and *anguille tremblante* by the French settlers of Guyana, which possesses the singular faculty of stunning its prey by an electric discharge. It is, however, met with most frequently in the small stagnant pools that are dispersed at intervals over the immense plains which extend from the Oronoco and Apure. The old road near Uruticu has been actually abandoned on account of the danger experienced in crossing a ford, where the mules were, from the effect of concealed shocks, often paralyzed and drowned. Even the angler sometimes receives a stroke, conveyed along his wetted rod and fishing line. The sensation which the Gymnotus occasions, is highly painful, and leaves a numbness in the parts affected. It indeed resembles more the effect of a blow on the head, than the shock of a common electric discharge. Analogous to the galvanic excitement, it may, however, depend less on the absolute intensity of action, than on the length of its duration. In both cases, the diffuse shock received is more akin to the impression made by the residuum of an immense battery, than the sharp twitch occasioned by the explosion of a small charged jar. The Indians entertain such a dread of the Gymnotus, and show so much reluctance to approach it, when alive and active, that Humboldt found extreme difficulty in procuring a few of those eels to serve as the subject of his experiments. For this express purpose he stopped some days on his journey across the Llamos to the river Apure, at the small town of Calabozo, in the neighbourhood of which he was informed that they are very numerous. But though his landlord took the utmost pains to gratify his wish, he was, after repeated attempts, constantly unsuccessful. Tired at last of disappointment, he resolved to proceed himself to the principal spot which the Gymnoti frequent. He was conducted to the Cagnode Bera, a piece of shallow water, stagnant and muddy, but of the heat of seventy-nine degrees, and surrounded by a rich vegetation of the *clusia rosea*, the *hymenaea courbaril*, the great Indian fig-tree, and the sensitive plants with odoriferous flowers. Here the travellers soon witnessed a spectacle of the most novel and extraordinary kind. About thirty horses and mules were quickly collected from the adjacent savannahs, where they run half wild, being only valued at seven shillings a head, when their owner happens to be known. These the Indians hem in on all sides, and drive them into the marsh; then pressing to the edge of the water, or climbing along the extended branches of the trees, armed with long bamboos or harpoons, they with loud cries, push the animals forward, and prevent their retreat. The Gymnoti, roused from their slumbers by this noise and tumult, mount near the surface, and swimming like so many livid water serpents, briskly pursue the intruders, and gliding under their bellies, discharge through them the most violent and repeated shocks. The horses, convulsed and terrified, their mane erect, and their eye staring with pain and anguish, make unavailing struggles to escape. In less than five minutes two of them sunk under the water and were drowned. Victory seemed to declare for the electric eels.

But their activity now began to relax. Fatigued by such expense of nervous energy they shot their electric discharges with less frequency and effect. The surviving horses gradually recovered from the shocks, and became more composed and vigorous. In a quarter of an hour, the Gymnoti finally retired from the contest, and in such a state of languor and complete exhaustion, that they were easily dragged on shore by help of small harpoons fastened to cords. This very singular plan of obtaining the electric eel is, in allusion to the mode of catching fish by means of the infusion of narcotic plants called *embarbascar con caballas*, or poisoning with horses.

BOX OF RATTLE-SNAKES,

ARRIVAL, FROM CHARLESTON, SOUTH CAROLINA, OF AN INTERESTING FAMILY TO THE ROYAL DUBLIN SOCIETY.

A large box, pierced with holes, and secured by a lock, was forwarded from America to Dr. Scouler, the learned Professor of Natural History, to the Royal Dublin Society; but no letter accompanied it, to tell the nature of its contents. On proceeding to open it, a violent commotion and noise was manifested in its interior. Dr. Scouler's sagacity at once led him to conclude that it was tenanted by Rattle-snakes. Proceedings were immediately suspended in respect to its dangerous inmates, and the lid of the box was cautiously drawn off; when it appeared that there was a large plate of glass underneath it, through which were seen five rattle-snakes full grown, and in full vigour and activity. The largest was about four feet long and about as thick as a man's wrist. Dr. Scouler forwarded them to the Zoological Gardens, where doubtless they will attract numerous visitors. On being removed to the gardens, a sparrow was thrown into the cage in which they were confined, which was immediately seized on; but on a kitten being thrown after it, the snake relinquished the sparrow and immediately bit the kitten, which exhibited symptoms of life, until it altogether was swallowed up. The sparrow was devoured by another of the snakes.

The rattle-snake, though classing amongst the most ferocious of reptiles, is far from being so mischievous as other poisonous snakes. Their clumsy form, the warning of the rattle, and their inactive disposition, render accidents much less frequent than might otherwise be expected. The agile *Cobre de Cappello* of India, is far more mischievous. The rattle-snake has been supposed to possess a fascinating power over other animals, and even over nervous individuals of the human race. The imaginary fascination is merely the result of terror. A sparrow has been domesticated in the same cage with a rattle-snake, as a dog has been with a lion, and the bird feeds and jumps about in the most fearless manner, and even lights on the head of the snake. It is a curious fact, that venomous serpents have been objects of superstitious veneration in all ages. The portrait of the venomous *aspic* appears frequently on the walls of Egyptian temples; the hooded snake is reverenced by the Hindoos, and the rattle snake is venerated as a mysterious being by the simple natives of the American continent. The *Aspic*, or *Haje*, the snake employed by Cleopatra for self-destruction, was adored by the Sepoys who arrived in Egypt during the contest carried on against the French.

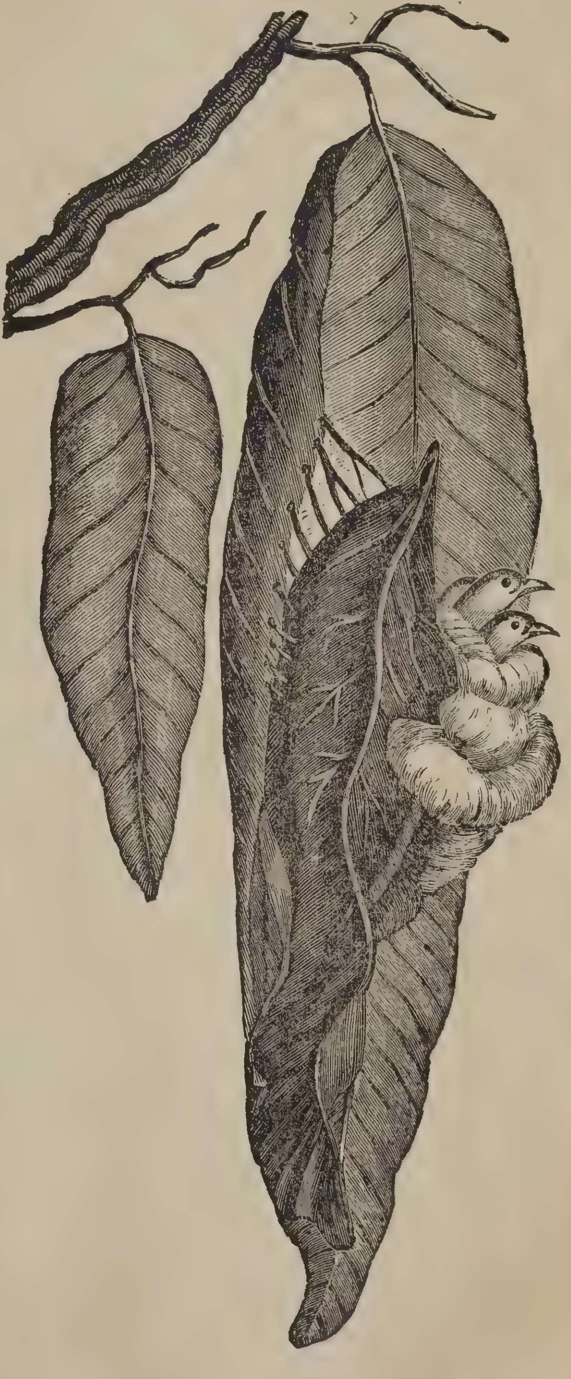
THE TAILOR BIRD,

MOTACILLA SUTORIA.

This is the most curious of the birds called tailors, which build their nests with leaves, sewed very neatly with cotton or other fibres. " The tailor bird," says Darwin, " will not trust its nest to the extremity of a slender twig, but makes one more advance to safety by fixing it to the leaf itself. It picks up *a dead leaf, and sews it to the side of a living one*, its slender bill being its needle, and its thread some fine fibres; the lining consists of feathers, gossamer, and down; its eggs are white; the colour of the bird light yellow; its length three inches; its weight three-sixteenths of an ounce; so that the materials of the nest, and the weight of the bird, are not likely to draw down a habitation so slightly suspended. A nest of this bird is preserved in the British Museum." There are now three such nests in the Museum, all of which certainly give some colour to the story of a dead leaf having been sewed to a living one; yet we have the authentic narrative of an eye witness of its operations, which mentions nothing of this kind, but, on the contrary, serves to confirm our doubts. After comparing it with the baya, he says: "Equally curious in the structure of its nest, and far superior in the variety and elegance of its plumage, is the tailor bird of Hindostan; so called from its instinctive ingenuity in forming its nest; it first selects a plant with large leaves, and then gathers cotton from the shrub, spins it to a thread by means of its long bill and slender feet, and then, as with a needle, sews the leaves neatly together to conceal its nest. The tailor bird resembles some of the humming birds at the Brazils, in shape and colour; the hen is clothed in brown; but the plumage of the cock displays the varied tints of azure, purple, green, and gold, so common in those African localities. Often have I watched the progress of an industrious pair of tailor birds, in my garden, from their first choice of a plant until the completion of the nest and enlargement of the young. How applicable are the following lines, in the Musae Seatonianaé, to the nidification of the tailor birds, and the pensile nest of the baya:—

'Behold a bird's nest!
Mark it well, within, without!
No tool had he that wrought, no knife to cut,
No nail to fix, no bodkin to insert,
No glue to join; his little beak was all:
And yet how neatly finished! What nice hand,
With every implement and means of art,
Could compass such another?' "—
Forbes' Oriental Memoirs.

Wilson, in his history of birds, thus describes the nests of the orchard starlings, (*Icterus mutatus*:) "The nest is hemispherical, three inches deep and four in breadth, the concavity scarcely two inches deep by two in diameter. I had the curiosity to detach one of the fibres or stalks of dried grass from the nest, and found it to measure thirteen inches in length, and in that distance was thirty-four times hooked through and returned, winding round and round the nest! The inside is usually composed of wool, or the light downy appendages attached to the seeds of the platanus occidentalis, or buttonwood, which form a very soft and commodious bed. Here and there the outward work is extended to an adjoining twig, round which it is strongly twisted, to give more stability to the whole, and prevent it from being overset by the wind. When they choose the long pending branches of the weeping willow to build in, as they frequently do, the nest, though formed of the same materials, is made much deeper and of slighter texture. The circumference is marked out by a number of these pensile twigs that descend on each side like ribs, supporting the whole; their thick foliage, at the same time, completely concealing the nest from view. The depth, in this case, is increased to four or five inches, and the whole is made much slighter. These long pendant branches, being sometimes twelve or even fifteen feet in length, have a large sweep in the wind, and render the first of these precautions necessary to prevent the eggs or young from being thrown out; and the close shelter afforded by the remarkable thickness of the foliage is no doubt the cause of the latter. Two of these nests, such as those here described, are now lying before me, and exhibit not only art in the construction, but judgment in adapting their fabrication so judiciously to their particular situations. If the actions of birds proceeded, as some would have us believe, from the mere impulses of that thing called instinct, individuals of the same species would uniformly build their nests in the same manner, wherever they might happen to fix it; but it is evident from these just mentioned, and a thousand such circumstances, that they reason, *a priori*, from cause to consequences, providently managing with a constant eye to future necessity and convenience."—*American Ornithology*,



(*The Tailor Bird.*)

Scientific Notices.

THE ANTARTIC EXPEDITION.

We congratulate the country on the happy return of one of the most memorable expeditions ever recorded in English history; an expedition, fortunate in every respect, in the outfit provision made for its success, in the intrepidity and skill of its conduct throughout, in the perfect accomplishment of all its scientific objects, in the continued health and preservation of the human beings exposed to its perils and privations, in the harmony which has never for a moment been interrupted among officers and men by jealousies or misbehaviour, and finally, in its auspicious arrival at home, after four years of brave and unwearied exertion, in safety, to be crowned with the rewards and honours so nobly earned from an admiring and grateful nation.

Justly may Great Britain be proud of this achievement; and sure we are that its glory will not be felt by Britain alone, but be acknowledged by the whole civilized world, to which, as well as to ourselves, its interesting and important results in science belong. The exemplary humanity and prudence of Capt. James Ross, Capt. Crozier, and their gallant companions entrusted with the command and direction of the undertaking, are above all praise; and the reciprocating steadiness and devotedness of the crews of the two vessels are no less creditable to the national character. Three fine fellows were lost by accident within the four years; but such was the effectual care and management bestowed during all that time, under every circumstance of toil and danger, that the first natural death occurred at Rio, on the homeward voyage, and the first and only corpse was there committed to the earth. Highly as we must think of what has been done in other respects, the attention paid to the comfort and welfare of the men, and thus restoring them to their country in robust health and vigour, must, in our opinion, demand the warmest tribute of applause, and redound most signally to the honour of their leaders.

But we will not detain our anxious readers any longer, by introductory remarks, from the account of this expedition, which we have the good fortune to be able to lay before them; the sailing of which, its equipments, experiments, and other particulars, imparted much interest to the columns of *The Literary Gazette* four years ago, when its Editor bade farewell to his friends on board the Erebus, as they sailed on their long and adventurous career. It is not easy to express the delight he experiences in welcoming their return.

We may, in order to make the statement more complete, run over the journal from the period to which we have alluded.

The Erebus, Captain James Ross, and the Terror, Captain Crozier, left England on the 29th of September, 1839, and made observations at Maderia, Port Praya, St. Paul's Rocks, and Trinidad. On the last day of January, 1840, the expedition reached St. Helena, Captain Ross having been desirous, in taking this course, to determine the important point of minimum magnetic intensity, and the nature of the curve connecting those points in which that intensity is weakest. This he accurately accomplished; and we may note, that the large space of Atlantic Ocean so traversed possesses the least magnetic intensity of any like portion of the surface of the globe. The position of the line, presumed to be proceeding towards the north, being thus ascertained, it will be easy in all future time to mark its progress, and establish a certain law upon the subject. (Vide *Transactions of the Royal Society for* 1842.) The position of the line of no-dip or magnetic equator was also determined, and fixed grounds laid for subsequent observation of the changes to which it may be liable.

The magnetic observatory at St. Helena having been set on foot, and the officers and instruments landed, the expedition sailed again Feb. 8, and March 17, arrived at the Cape of Good Hope, where similar services were performed. A series of daily experiments was made on the temperature and specific gravity of the sea, at the depths of 180, 300, 480, and 600 fathoms, and at length soundings at the bottom of the ocean were struck by the plummet. From all which, the physical condition of this element will come to be better understood.

April 3. The Cape was left behind, and the system of magnetic observation sedulously and zealously continued, to connect the voyage with the observatories established in other parts of the world. Kerguelen's Land was reached on 12th May; and on 29th (the day previously fixed for simultaneous observations), the magnetometric instruments were noted every 2½ minutes, for 24 hours; and, fortunately, one of the magnetic storms which have been noticed in various parts of Europe occurred, and its affecting the instruments, as at Toronto, afforded complete proof of the vast extent of magnetic influences, pervading the earth's diameter with a velocity equal to light or electricity.

Geological and geographical investigations were carried on here. Large fossil-trees were found in the lava, and indicated the igneous origin of these islands. Extensive seams of coal were also imbedded in the volcanic mass, which may, with great benefit, be employed for the purpose of steam navigation in this quarter of the world, and be of immense importance to the commerce of India.

FIRST YEAR.

From Hobart Town, Van Diemen's Land, the expedition proceeded to Auckland Islands, and completed a perfect series of magnetic observations on the important term-day of November 1840. The anticipatory attempts* of the American Lieut. Wilkes, and the French Commodore D'Urville, having become known to our countrymen, Captain Ross wisely used his discretionary power in altering his route from that originally intended. He accordingly directed his course for the utmost south, at about the 170th deg. of east longitude, by which the isodynamic oval and the point exactly between the two foci of greater magnetic intensity might be passed over and determined directly between the tracks of the Russian navigator Bellinghausen and our own illustrious Cook. He then proposed to steer S.W. towards the pole, rather than attempt its approach directly from the north on the unsuccessful foot-steps of preceding voyagers.

On the 12th of December he quitted Auckland Islands, touched at Campbell Island, and, passing through numerous icebergs to the southward of 63° lat., made the Pack-Edge, and entered the Antarctic Circle on New-Year's day 1841. This pack was not so formidable as represented by the French and Americans, but a gale and other unfavourable circumstances prevented the vessels from entering it at the time. A gale from the northward blew them off; and it was not till the 5th that they regained it, about 100 miles to the eastward, in lat. 66° 45′ S., and long. 174° 16′ E., when, though the wind was blowing, and the sea running high directly upon it, the entrance was achieved without the slightest injury to either ship. After advancing through it a few miles, they were able to make their way to the southward with comparative ease and safety. Thick fogs, however, ensued, and, with light winds, rendered their course more difficult as well as tedious; and constant snow-showers impeded their operations. Whenever a clear glimpse could be obtained, they were nevertheless encouraged by seeing a strong water-sky to the S.E.; and on the morning of the 9th, after sailing above 200 miles through the pack, they gained a perfectly clear sea, and bore away S.W. for the magnetic pole!

Jan. 11, lat. 70° 47′ S. and long. 172° 36′ E., land was discovered at the distance of nearly 100 miles, directly in their course and between them and the pole—*the southernmost known land ever discovered*, though somewhat nearly approached by the Russians twenty years ago. As those who accomplished this honour for their country approached, it was seen to rise in lofty mountain peaks of from 9000 to 12,000 feet in height, entirely covered with eternal snow, and the glaciers projecting from the vast mountain brows for many miles into the ocean. By and by exposed patches of rock were visible; but the shore was so lined with bergs and pack-ice, with a heavy swell washing over them, that a landing could not be effected. They therefore steered to the S.E., where were several small islands; and on the 12th Captain Ross landed, accompanied by Captain Crozier and a number of officers of each ship, and took possession of the country in the name of our gracious queen Victoria. The island is composed altogether of igneous rocks, and lies in lat. 71° 56′ S. and long. 171° 7′ E.

The east coast of the mainland trended to the southward, and the north took a north-westerly direction; and Capt. Ross resolved on penetrating as far as he could to the south, so that he might, if possible, pass beyond the magnetic pole, which the combined observations had placed in 76° S. nearly, and thence proceed westward till he completed its circumnavigation. They accordingly steered along this magnificent land; and on the 23d of January reached 74° 15′ S., the highest southern latitude that had ever been previously attained.

Here strong southerly gales, thick fogs, and perpetual snow-storms impeded them; but they continued to examine the coast to the southward, and on the 27th again landed on another island in lat. 76° 8′ S. and long. 168° 12′ E.; like the former, all of igneous rocks. On the 28th a mountain 12,400 feet above the level of the sea was seen emitting flame and smoke in grand profusion; which splendid volcano received the appropriate name of

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* This was a paltry proceeding, when the preparation of the English expedition to explore these seas, antarctic and southern pole, was so fully known. To try to be beforehand with it was only worthy of failure.—*Ed. L. G.*

Mount Erebus. Its position is lat. 77° 32′ S. long. 167° 0′ E.; and an extinct crater to the eastward of it was named—though not quite so fitly—*Mount Terror.*[*]

Continuing to follow the mainland in its southern trending, a barrier of ice, stretching off from a prominent cape, and presenting a perpendicular face of above 150 feet, far above the mast-heads of the vessels, shut up the prospect of further advance in that direction. They could just discern beyond, the tops of a range of very lofty mountains towards the SSE., and in lat. 79° S. This barrier they explored to the eastward, till, on the 2d of Feb., they reached lat. 78° 4′ S., the highest they were at any time able to attain; and on the 8th, having traced its continuance to the long. of 191° 23′ in lat. 78° S., a distance of more than 300 miles, their farther progress was stopped by a heavy pack pressed closely against it, and the narrow lane through which they had hitherto found their way being now completely covered by rapidly forming ice, nothing but the strong breeze which they fortunately had with them put it in their power to retrace their course. At the distance of less than half-a-mile they had soundings on a bed of soft blue mud, with 318 fathoms. The temperature was 20° below the freezing point; and aught more here being impracticable, they bore away for the westward, and again reached lat. 76° S. (that of the magnetic pole) on 15th of February. They found the heavy ice partially drifted away, but its place supplied by more, recently formed, through which they got a few miles nearer the pole—lat. 76° 12′ S., and long. 164°, the dip 88·40, and variation 109·24 E.,—thus *only* 157 *miles from the pole.* The nature of the coast rendered it impossible to lay up the ships and endeavour to reach this interesting point by land; but it is satisfactory to know that it was approached some hundreds of miles more nearly than ever it was before, and that from the multitude of observations made, in so many different directions, its position can be determined with almost as much certainty as if the spot had been actually visited.

The advanced period of the season in this high latitude now rendered return advisable; but yet they made another effort to land on the north part of the coast, which was defeated by the heavy pack-ice. They found it terminate abruptly in lat. 70° 40′ S., and long. 165° E., trending considerably to the southward of west, and presenting an immense space, occupied by a dense pack, so firmly cemented together by the newly formed ice, as to defy every attempt to penetrate it. The whole southern land thus traced extends from nearly the 70th to the 79th degree of latitude, and was distinguished by the name of our beloved sovereign.

Their way from hence lay near the chain of islands discovered by Balleny in 1839, and more extensively explored by the American and French expeditions in the following year. On the 4th of March they recrossed the antarctic circle, and being necessarily close by the eastern extreme of those *patches of land* which Lieut. Wilkes has called "*the Antarctic Continent,*" and having reached their latitude on the 5th they steered directly for them; and at noon on the 6th, the ships being exactly over the centre of this mountain range, they could obtain no soundings with 600 fathoms of line; and having traversed a space of 80 miles in every direction from this spot, during beautifully clear weather, which extended their vision widely around, were obliged to confess that this position, at least, of the pseudo-antarctic continent, and the nearly 200 miles of barrier represented to extend from it, have no real existence!![*]

Continuing to bear westward, the expedition approached the place where Prof. Gauss supposed the magnetic pole to be, which was proved, by extended investigation, to be erroneous; and they then, April 4, departed for Van Diemen's Land.

No disease or casualty of any kind attended their first labours, and their was not one individual in either ship on the sick-list! Sir John Franklin, too, the estimable friend and arctic companion of Ross, was still at the opposite pole, ready to welcome and entertain him. It was doubtless a happy meeting.

SECOND YEAR.

The magnetometers, &c., again strictly compared with those of the fixed observatory, the crews refreshed, the ships refitted, the gallant band again proceeded with their arduous task. The expedition went to Sidney and the Bay of Islands, in order to extend the magnetic observations, and finish meteorological and other philosophical experiments. These at the antipodes of European observatories, and equally separated from each other, are of much interest to science; and have decided the important question of the exact correspondence of the momentary magnetic perturbations. The perturbations at Van Diemen's Land and New Zealand were found to be in exact accordance.

Nov. 23, 1841. They sailed from the Bay of Islands, and passing by the Chatham Islands, bore away to the eastward to examine the supposed position of the focus of greater magnetic intensity, and favoured with fine weather, obtained a series of observations which demonstrated the error of the assigned position. They accordingly proceeded to the south to resume the examination of the antarctic seas.

Dec. 18. In lat. 62° 28′ S. and long. 140° 57′ W., they made the pack 300 miles farther north than before; which unexpected obstruction shewed that they were too early for the season. They entered, however, and pursued their voyage for 300 miles, when it became so close that they could push the ships no more to the southward. With untiring zeal and unflinching fatigue of officers and men, it was again new-year's day, 1842, before they could cross the antarctic circle. The intense brightness of the sky foreshewed them that they would still have to encounter vast bodies of ice in that direction, whilst more encouraging appearances held out inducement to try their fortune to the westward. By Jan. 19 they had succeeded in reaching within a few miles of the open water, when a violent gale sprung up and placed them in a situation of appalling jeopardy. The rudder of the Erebus was shattered, and that of the Terror was soon after utterly destroyed; and violent shocks against the ice for twenty-six hours, as they rolled deeply among its heavy masses, severely tried their strength and threatened their existence. On the 21st the gale abated; and though driven back far into, and closely beset by, the pack, they went to work to repair damages and prepare for new efforts. Their condition was very helpless, and their vexation the greater, as the last days were fast shortening, and the season drawing to a close. They had, however, gone through the pack in a direct line 450 miles, and were more south than Cook or Bellinghausen had been able to reach in more favourable seasons. At length, Feb. 2d, they cleared the pack in lat. 67° 28′ S., and long. 159° 0′ E., after an imprisonment of forty-six days in the "thick-ribbed ice." This was only ten days earlier than they had been obliged to abandon their operations the year before; but still they advanced to see what could be done. They pursued their course to the southward along the edge of the pack, but it was found to trend to the westward across their course, which obliged them to stretch farther in that direction than was wished; and a continuance of violent gales added more to their difficulties. They fought against every obstacle, and at midnight, on the 22d, they had the satisfaction to make the great barrier a few miles to the eastward of the spot where their examination of last year had concluded. This enormous mass gradually diminishes, from its commencement at the foot of Mount Erebus, where it is about 200 feet, to 150 feet at the eastern extreme, as far as could be seen. At the point now reached it was farther diminished to 107 feet, and broken into deep bays and low projections not above from 50 to 70 feet high. Soundings in a bed of blue mud were obtained at 290 fathoms; which, together with the strong appearance of land, gently rising in ridges to the height of several hundred feet, at a distance of 50 or 60 miles from the barrier, leaves little doubt of the existence of an extensive country to the southward, but so entirely covered with perpetual ice as to conceal every conceivable feature of marked character to establish its positive existence.

The barrier was, with a strong breeze, traced about 130 miles farther eastward than in the preceding year, but all beyond was fruitless. Capt. Ross therefore retraced his course, and, where he was before prevented by the weather and fogs, obtained two additional lines of magnetic determinations at no great distance from the pole, by which its position can be still more accurately ascertained. The antarctic circle was again repassed, and another hazardous enterprise undertaken, in these long dark nights, which confirmed the opinion regarding the non-existence of the supposed focus of magnetic force. On the 12th March, in a heavy breeze, the ships were driven into violent collision with an extensive chain of icebergs, and the bowsprit, fore-topmast, and some smaller spars of the Erebus, were carried away and lost. The vessels were providentially preserved from being dashed to pieces; and the coolness, promptitude, and activity of their crews were never more energetically displayed. A direct course was held for Cape Horn, as far from the tracks of former navigators as possible; and in a heavy gale, James Angeley, quarter-master, fell overboard and was drowned, the only casualty during 136 days of arduous duty, and again without one man on the sick-list. Provisions were supplied from Rio de Janeiro, and the ships were put in as complete a condition to renew operations as the day they sailed from England.

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[*] The volume of smoke ejected by the volcano was in sudden jets, and attained an altitude of 2000ft.; the diameter at the crater's mouth was about 300ft., and it gradually assumed the shape of an inverted cone till it was 5 or 600ft. in diameter at its highest elevation. The smoke then gradually dispersed and left the crater quite clear, filled with intensely bright flame flashing even in the face of the meridian sun. The permanent snow extends to the very edge of the crater, and no appearance of lava-streams could be detected on the surface.—*Ed. L. G.*

[*] Lieut. Wilkes may have mistaken some clouds or fog-banks, which in these regions are very likely to assume the appearance of land to inexperienced eyes, for this continent and range of lofty mountains. If so, the error is to be regretted, as it must tend to throw discredit on other portions of his discoveries which have a more substantial foundation.—*Ed. L. G.*

THIRD YEAR.

On the morning of Dec. 17, 1842, the expedition sailed from the Falkland Islands, and on the 24th saw the first icebergs, when nearly in the latitude of Clarence Island; and next day their progress was arrested by a rather solid pack. The 26th was spent in endeavouring to find out a penetrable part, and they were led to stand along its edge to the westward. Capt. Ross, being persuaded that the great extent of open water found by our late worthy friend, Capt. Weddell, to the 74th deg. of latitude, was produced by the prevailing westerly winds driving the ice away from some extensive shore, probably the eastern side of Graham Land, determined, if he could, to get hold of the coast, and penetrate to the southward and eastward, between its shores and the pack, and thus he hoped to arrive at the open part of the open sea found by Weddell; deeming it more desirable to trace the land to the southward than to attempt to follow his track, from which no discovery could be expected. On the 28th they discovered land, extending S. to S.W. by W.; but its shores lined with so extraordinary an accumulation of grounded icebergs as to prevent all approach nearer than three or four miles. They had, therefore, only to pass along and examine the coast as they could. The whole land, with the exception of two bold projecting head-lands near its north extreme, was found to be entirely covered with snow or ice, which descended from the height of 2000 or 3000 feet into the sea, where, broken by the violence of the waves it formed perpendicular icy cliffs of from 20 to 30 feet high, from which the bergs already mentioned constantly broke away and grounded in the shallow water. Between them the whirlpools, caused by a strong tide, were very troublesome; and several small islets, quite free from snow, were observed, extending to the south-eastward from the farthest visible point of the land. A dense fog arose, and compelled the expedition to haul off to the eastward, where they soon met with the western edge of the packs. On the evening of the 30th, they again closed the land, and steered across a deep gulf for the extreme point; but the pack was close against its shores, and by the 4th, in latitude 64¼° S., the ships were beset, and drifted rapidly back to the northward. Next day they were extricated, and finally succeeded in landing on an island at the extreme of a deep inlet on the south side of the gulf, of which Captain Ross took possession in her majesty's name. This island is of volcanic origin, and though not more than two miles in diameter, projects a perfectly formed crater to the height of 3500 feet above the level of the sea. It lies in lat. 64° 12′ S., and long. 56° 49′ W. A magnificent table-topped mountain to the westward rises to the height of 7000 feet, and the whole western shore of this great gulf consists of mountainous ranges covered with everlasting snow. It was named the Gulf of Erebus and Terror; is about 40 miles between the capes, and nearly as many miles deep. Excepting the south part, it was full of heavy pack-ice, and there were two spaces at its deepest parts where no land could be discerned, and which probably communicate with Bransfield Strait. In the evening, the ice being driven off the land, they rounded the south part of the gulf, and coursed the and to the south-westward between its shore and a chain of grounded bergs two or three miles distant. All this portion was free from snow for twenty miles, when they again came to perpendicular icy cliffs descending from a snow-covered mountain about 2000 feet high. This was a complete barrier in miniature, and tended to confirm Captain Ross's opinion that an extensive continent exists to the southward of the great barrier discovered in 1841, extending to the east 450 miles from Mount Erebus.

Ice, in various forms, beset them for some time, and observations were taken on that which was fixed. No doubt remained that the strait before spoken of communicated with Bransfield Strait, and probably with the Canal d'Orleans; but it was so completely closed, that nothing farther could be done to decide this geographical point. The struggles with the ice continued to the 1st of February, when it became essential to extricate the ships, and endeavour to penetrate to the south. On the 4th they succeeded in gaining the pack-edge, and were once more in clear water, after having been more or less entangled for the space of forty days. East winds and thick fogs prevailed, and the best of the season was past. They, however, in lat. 65° nearly, crossed Weddell's returning track, and found pack-ice where he had perfectly clear sea.[*] They could not penetrate beyond lat. 65° 15′ S., where their position was 100 miles to the southward of Admiral D'Urville's tract where he unsuccessfully attempted to follow the route so nobly achieved by our countryman Weddell. On the 22d they crossed the line of the no-variation in lat. 61° and log. 24° W. in a dip. of 57° 40′; a fact of much importance to magnetic science, since the observations appear to prove that the supposition of there being two magnetic poles of verticity in the south (as is well known to be the case in the north) is erroneous, *and that there is in reality but one magnetic pole in the southern hemisphere.*

We may notice that the whole of this year's observations tend, in a remarkable manner, to confirm the position assigned to this pole by Captain Ross from his first year's experiments in its close vicinity.

On the 23d they rounded the last extreme of the pack, and stood to the S. E., and crossed the antarctic circle on the 1st of March in long. 7½° W. From judicious considerations Captain Ross now tried to penetrate to the southward in the meridian exactly between Bellinghausen's and Weddell's tracks, and consequently stood to the S. W. On the 23d, in lat. 68° 34′, and log. 12° 49′ W., he was becalmed, and seized the opportunity to try for soundings, but 4000 fathoms of line failed to reach the ground. This great depth is against the probability of meeting with land near. For some time, however, they persevered in an attempt to get farther to the south, but the ice was too strong for them, and considerable danger was encountered in a tempestuous gale, which lasted, without interruption, during three days. The darkness of the nights and the number of icebergs seemed only to increase the confidence and courage of the men; and the management of the ships was, throughout, most worthy of admiration. At length, on the 8th, the wind veered to the eastward, and with hearts overflowing with gratitude to God for his merciful protection, when human efforts were all but useless and unavailing, our brave fellows were in safety, and steering for the north. It was not, however, till the 12th, that they were relieved from the apprehension of being driven against the still-threatening pack.

On the 17th they reached the latitude of Bouvet Island (64° 19′), about 8° to the westward of the assigned position; but they, like Cook, searched for it in vain; and Captain Ross concludes that Bouvet had been deceived by the form of an iceberg. The last berg was seen on the 25th, in lat. 47° 3′ S., and long. 10° 51′ E., when bearing away before a fair gale for the Cape of Good Hope, where the expedition prosperously anchored on the 4th of April.

In the third season, it will thus be seen, they did not penetrate so far as Weddell; yet the unusual prevalence of easterly winds preventing the pack from drifting off shore, was the means of enabling them to reach the lat. of 71½° S. on a meridian usually occupied by the pack when driven by the prevailing westerly winds from the east shore of Graham's Land, and extending their researches in that meridian (15° W.) twelve degrees of latitude beyond their predecessors, Cook, Bellinghausen, and Biscoe.

The discovery and examination of a considerable extent of unknown coast, proving the insularity of those portions of land first discovered by Bransfield in 1820, for years afterwards frequented by our sealers in search of their prey, and finally, in 1839, seen by Admiral D'Urville, and called by him "*Louis Philippe's Land*," cannot but be regarded as important additions to our knawledge of those parts, which, though islands of inconsiderable size, might have extended, and were supposed to extend, even to the pole.

At the end of April, the Erebus and Terror left the Cape of Good Hope, and touched at St. Helena and Ascension for the purpose of repeating the magnetic observations they had formerly made, and verifying their instruments. In order to render the whole series complete, it was necessary to repair to Rio de Janeiro, which the expedition reached on the 18th of June. After a few days employed in observing, and refitting, they sailed for England, and, touching at one of the Western Islands, made the land of Scilly on the 27th of August. The passage up channel was rendered tedious by calms and light winds, so that Captain Ross was unable to land until Monday last, the 4th of September, when he disembarked at Folkstone, and arrived in town on the afternoon of the same day. Need we add, that his reception at the Admiralty was most cordial and gratifying. Lord Haddington complimented him in the warmest manner, in the presence of the other lords; and all joined in the highest eulogy upon his services. This is only the preface to the fame he has, with his brave comrades Captain Crozier, Commander Bird, and the rest, so nobly earned; and it will be echoed not only now and by his country, but by the whole civilised world and for ever. Heartily do we wish him, and all who were with him, the perfect enjoyment of that high health in which they have been restored to us after all their fatigues and perils.

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[*] The doubts endeavoured to be thrown on Weddell's narrative by the French, merely because they were unable to follow his track, ought not to be passed without reprehension.—*Ed. L. G.*

Having given the outline of this great national exploit, we have only to annex a very few particulars in connexion with it, which may interest our general readers.

When at Cape Horn, making magnetometric observations, the ships anchored in St. Martin's Cove, where they fell in with a small party of Fuegeans, a most miserable race of human creatures, wandering naked amongst the constantly falling snow-storms of this inclement region.

On their path from Cape Horn to the Falkland Islands they observed a very dangerous bank, directly in the line, on which it is probable that many a daring bark has been lost, whose fate has never been disclosed to mortal ears.

On the island on which they landed, in lat. 71° 56′ S. and long. 171° 7′ E., where they procured specimens of minerals imbedded in the igneous rocks, there was not the least appearance of vegetation; but it was so densely covered with penguins, which stoutly resisted their landing, that it was with difficulty they could force their way through them.

In a former *Gazette* we described some of the birds, &c.

The acquisitions to natural history, geology, geography, but, above all, towards the elucidation of the grand mystery of terrestrial magnetism, raise this voyage to a pre-eminent rank among the greatest achievements of British courage, intelligence, and enterprise.

The vessels were expected to arrive at Woolwich yesterday or to-day.—*Literary Gazette.*

Nutritious Food—A very interesting report on the comparative nutritive properties of food, was lately presented to the French Minister of the Interior, by Messrs. Percy and Vanquelin, two members of the Institution. The result of their experiment is as follows:—In bread, every hundred pounds weight are found to contain 80lbs. of nutritious matter; butcher's meat, averaging the various sorts, contains only 35lbs. in 100lbs.; French beans, 80lbs.; peas, 23lbs.; lentiles, 94lbs. in 100lbs. Greens and turnips, which are the most aqueous of all vegetables used for domestic purposes, furnish only 8lbs. of solid nutritious substance in one hundred; carrots, 14lbs.; and what is very remarkable, as being in opposition to the hitherto acknowledged theory, 100lbs. of potatoes only yield 25lbs. of substance valuable as nutritious. One pound of good bread is equal to 2½ or 3lbs. of best potatoes; and 75lbs. of bread, and 30lbs. of meat, are equal to 300lbs. of potatoes; or, to go more into detail, ¾ of a pound of bread, and 5 ounces of meat, are equal to 3lbs. of potatoes. One pound of potatoes is equal to 4lbs. of cabbage and 3lbs. of turnips; but one pound of rice, or broad beans, or French beans (in grain,) is equal to 3lbs. of potatoes. This calculation is considered perfectly correct, and may be valuable in families, where the best mode of supporting nature should be adopted at the least expense.

Imperial Gratitude!—Among the leading members of the British Association, we have always had to reckon Mr. Murchison, late president of the Geological Society; and it affords us pleasure, on his recent return from Poland and the Carpathian mountains, that his scientific services in Russia have not been unacknowledged by the mighty ruler of that country. Mr. Murchison's tour was, we believe, for the purpose of completing the materials for his great work on the geology of Russia; and it must have been highly gratifying to him to find in London, despatches from the Imperial Minister, Cancrine, announcing that the Emperor, anxious to testify his sense of the eminent services of Mr. Murchison to the geology of Russia, had been pleased to grant to him, in addition to the decoration of St. Anne, formerly conferred on him (and which, absurd as it may seem, the British government does not allow to be worn, as Herschel and R. Brown are equally prevented from wearing their Prussian orders), a colossal vase of Avanturine, upon a pedestal of Altai porphyry, on the base of which is *galvanized* the following inscription:—

Gratia Imperatoris
Totius Rossiæ
Roderico Murchison
Geologiæ Rossiæ exploratoris. 1843.

The Minister of Mines has also presented Mr. Murchison with a magnificent plateau of watered steel, made in the Ural mountains—*Athenæum.*

Poisoning by Decomposed Meat.—Dr. Sigg mentions a remarkable instance of poisoning, on a rather extensive scale, which took place at Andelfingere, the canton of Zurich, in 1839. About six hundred persons partook of roast meats and hams, partially decomposed, of whom about four hundred and forty-four were taken ill, and nine died. Their illness appeared to be a species of typhoid fever, and the treatment consisted of an emetic at the beginning, chlorutted water as drink, leeches to the abdomen frequently applied, and mercurial friction carried to some extent.—*Medical Gazette.*

Poetry.

DOMESTIC VERSES.

Mr. Moir, the Delta of Blackwood's Magazine, and, with all the talent that periodical has displayed, undoubtedly one of its chiefest ornaments, is the author of the sweet and affecting volume before us. We had previously been favoured with a copy printed for distribution among private friends; but much as we admired its poetical beauties and natural feeling, we did not think ourselves at liberty to extend our sentiments into a public notice. The approbation of many persons eminent in literature, however, bestowed upon this collection of domestic themes, evidently written more to yield such relief as is found in the outpourings of the heart on touching occasions, than to be laid bare to foreign sympathies, and perhaps to stranger apathy, has persuaded the author to publish, in the hope that what he has done may in the perusal impart to others similarly tried, some at least of the consolation afforded to himself in the composition.

Grief is an extraordinary passion in many respects; and in none more than in the quality of being, generally, not increased, but soothed and softened by indulgence.

> "The grief that does not speak
> Whispers the o'erfraught heart and bids it break;"

and it is perilous to feed or encourage that which "lies all within." So we may say, from the same immortal bard, that as "to weep is to make less the depth of grief," so is the fashioning of our sorrows into words a means of relief and assuagement to the most poignant afflictions. The mind is taxed in another vein, and we unconsciously send the soul abroad from our inward self to seek for and meet the response of kindred spirits. Thus, in a measure beyond constrained occupation, the pangs of bereavement are mitigated by the voluntary endeavour to express the sense that overwhelms us for our loss—the cause that we have to appeal for commiseration from our fellow men—the melancholy communings with the universal grave, where all the weary rest—and the aspirations towards that future world, where we shall be re-united with those we have loved in this, and where neither sickness nor suffering can intrude to hurt us more.

With these brief lines we shall ask our readers to go along with us in tasting some of the pathos of Delta's, and, we are sure, of joining with us in lamenting that so fine a disposition should ever have been visited so to mourn. In the years 1838—9 he had the misfortune to bury three lovely boys at the winning ages of four years and a half, fifteen months, and four years and four months: well might he inscribe their tombstone, in Inveresk churchyard,

"Of such is the kingdom of Heaven."

The self-appellative of one of these beloved boys was "Casa Wappy," and on this pet name the following stanzas appear:—

And hast thou sought thy heavenly home,
Our fond, dear boy—
The realms where sorrow dare not come,
Where life is joy?
Pure at thy death as at thy birth,
Thy spirit caught no taint from earth;
Even by its bliss we mete our dearth,
Casa Wappy!
Despair was in our last farewell,
As closed thine eye;
Tears of our anguish may not tell,
When thou didst die;
Words may not paint our grief for thee,
Sighs are but bubbles on the sea
Of our unfathom'd agony,
Casa Wappy!
Thou wert a vision of delight
To bless us given;
Beauty embodied to our sight,
A type of heaven:
So dear to us thou wert, thou art
Even less thine own self than a part
Of mine and of thy mother's heart,
Casa Wappy!
Thy bright brief day knew no decline,
'Twas cloudless joy;
Sunrise and night alone were thine,
Beloved boy!
This morn beheld thee blithe and gay,
That found thee prostrate in decay,
And ere a third shone clay was clay,
Casa Wappy!
Gem of our hearth, our household pride,
Earth's undefiled,
Could love have saved, thou hadst not died,
Our dear, sweet child,

Humbly we bow to Fate's decree;
Yet had we hoped that time should see
Thee mourn for us, not us for thee,
Casa Wappy!

Do what I may, go where I will,
Thou meet'st my sight;
There dost thou glide before me still—
A form of light!
I feel thy breath upon my cheek—
I see thee smile, I hear thee speak—
'Till, oh! my heart is like to break,
Casa Wappy!

Methinks thou smil'st before me now,
With glance of stealth;
The hair thrown back from thy full brow
In buoyant health:
I see thine eyes, deep violet and light,
Thy dimpled cheek carnation'd bright,
Thy clasping arms so round and white,
Casa Wappy!

The nursery shows thy pictured wall,
Thy bat, thy bow,
Thy cloak and bonnet, club and ball;
But where art thou?
A corner holds thy empty chair,
Thy playthings idly scattered there,
But speak to us of our despair,
Casa Wappy!

Even to the last thy every word—
To glad, to grieve—
Was sweet as sweetest song of bird
On summer's eve;
In outward beauty undecay'd,
Death o'er thy spirit cast no shade,
And like the rainbow thou didst fade,
Casa Wappy!

We mourn for thee, when blind blank night
The chamber fills:
We pine for thee, when morn's first light
Reddens the hills:
The sun, the moon, the stars, the sea,
All, to the wallflower and wild pea,
Are changed,—we saw the world through thee,
Casa Wappy!

And though, perchance, a smile may gleam
Of casual mirth,
It doth not own, whate'er may seem,
An inward birth:
We miss thy small step on the stair;
We miss thee at thine evening prayer;
All day we miss thee, everywhere,
Casa Wappy!

Snows muffled earth when thou didst go,
In life's spring-bloom,
Down to the appointed house below,
The silent tomb.
But now the green leaves of the tree,
The cuckoo, and 'the busy-bee,'
Return—but with them bring not thee,
Casa Wappy!

'Tis so; but can it be (while flowers
Revive again)—
Man's doom, in death that we and ours
For aye remain?
Oh! can it be, that o'er the grave
The grass renew'd should yearly wave,
Yet God forget our child to save?—
Casa Wappy!

It cannot be; for were it so
Thus man could die,
Life were a mockery, thought were woe,
And truth a lie;
Heaven were a coinage of the brain,
Religion frenzy, virtue vain,
And all our hopes to meet again,
Casa Wappy!

Then be to us, O dear, lost child!
With beam of love,
A star, death's uncongenial wild,
Smiling above!
Soon, soon thy little feet have trode
The skyward path, the seraph's road,
That led thee back from man to God,
Casa Wappy!

Yet 'tis sweet balm to our despair,
Fond, fairest boy,
That Heaven is God's, and thou art there,
With Him in joy:
There past are death and all its woes;
There beauty's stream for ever flows;
And pleasure's day no sunset knows,
Casa Wappy!

Farewell, then, for a while, farewell,
Pride of my heart!
It cannot be that long we dwell,
Thus torn apart;
Time's shadows like the shuttle flee;
And dark howe'er life's night may be,
Beyond the grave I'll meet with thee,
Casa Wappy!

On Wee Willie, the youngest, is almost equally affecting, but not so replete with the dwelling on minute traits and recollections; and then Casa's dirge recalls all these again, with only other sounds of lamenting. The three are united in the following portion of another poem:—

The spell is broken! never more
Can mortal life again seem gay;
No future ever can restore
The perished and the pass'd away.
Though many a blessing gilds our lot,
Though bright eyes still our hearth illume,
Yet, O dear lost ones! ye are not
And half the heart is in your tomb!

Sudden it fell, the fatal shaft,
That struck blithe Charlie down in death;
And, while grief's bitterest cup we quaffed,
We turned to watch wee Willie's breath,
That faintly ebbed, and ebb'd away,
Till all was still; and ere the sun
A tenth time shed his parting ray,
Their bed of dreamless rest was one!

And next, dear David, thou art gone!
Beloved boy, and can it be
That now to us remains alone
Our unavailing grief for thee?
Yet when we trace thine upward track
To where immortal spirits reign
We do not, dare not wish thee back—
Back to this world of care again!

There are some other points, all of a tender and elegiac nature; but we will not, by adding another line, weaken the effect of the specimens we have chosen, upon every parent who has lost a child.—*Athenæum.*

Miscellanea.

CORRESPONDENCE.

To the Editor of the Dublin Literary Journal.

In the *General Advertiser* of the 2nd inst., I observed an article headed "The Motion of Vessels caused by Waves applied as a Motive power," and the article represents it as the first application of this power.

Now, without wishing to detract from the merits of Mr. Elzler, I believe the name is, I beg leave to say, that I know a gentleman residing near this city, to have gone to some trouble in the application of this power many years since, and even steps to have been taken towards securing a patent for the invention; but, if I do not much mistake, the captain of a merchant vessel which put into the harbour of Cork in a very leaky state, and whose ingenious application of this power alone enabled him to reach the harbour in safety, takes precedence of both these gentlemen.

The invention was brought before the public by a person well qualified to appreciate its ingenuity, and who saw it at work, at the present moment, a barrister residing in Dublin. The notice of it produced, if I recollect rightly, the testimonials of their approbation of the contrivance, and its application under circumstances of very great difficulty and danger, from some of our public institutions, but which I cannot just now call to mind.

As we are on the subject of a "Motive power," I shall take the liberty of noticing a very obvious, and a very tremendous one, which has been treated with very great neglect, the rise and fall of the ocean. I leave to others of more leisure, and more ingenuity, to wield its powers and direct their application.

Dublin, 9th Mo., 23. H.

To the Editor of the Dublin Literary Journal.

I think it was in *Saunders' News Letter* of the 5th inst., there was a paragraph headed—"Extraordinary Meteoric Phenomena," which described a very peculiar appearance of the heavens on the previous Sunday, the night of the 3rd, between 8 and 9 o'clock. When the article first caught my eye, I expected it to relate to a much more remarkable phenomenon, to which my attention was called by my son on the same night, and exactly at the hour of 9 P.M.; this was a meteor so exactly resembling a fixed star of the third magnitude, as to be wholly undistinguishable from it, quitting its position in the heavens, and gliding with a slow and equable motion from the point in the south by west, in which we first beheld it, towards the south-east, transversing a space of between twenty and thirty degrees, till lost in the light of the moon, and the haze which prevailed for some distance around her.

Not seeing any notice of this meteor in any of our periodicals, I thought it might deserve a place in the Literary and Scientific Journal.

September 22, 1843. R. H.

Effects of Lightning at Sea.—A paper from the commander of the *Vigie*, French ship, with the account of the effects of electricity in a recent voyage, was read at one of the recent meetings of the Academy of Sciences. It states that the main-mast was three times struck with the electric fluid, very severely, but that no damage was occasioned to the vessel, in consequence of its being provided with paratonnerres (*lightning defenders.*) A sailor was sent up to see what effect the electric fluid had on the paratonnerre, and as soon as he had reached it, he experienced such shocks, as nearly caused him to fall down, and he felt the same every time he placed his hand on the base of the paratonnerre. It had become a magnet. The same effect had been produced on every piece of iron in the vessel. The compasses, too, had their needles disarranged, and would no longer serve to guide the ship. Eight or ten days after the *Vigie* met another vessel, and obtained one of her compasses, but the magnetic action communicated itself to this one, and the instrument became useless.—*Civil Engineer.*

The end of a Soldier.—"When General Byng's column was ascending the hill, it was one blaze of fire, from the enemy's skirmishers behind the trees on the sides, and the houses and fences on the crest. This was, for the greater part, as harmless as common fire works, the balls going over our heads; and as the darkness increased, the effect was strikingly beautiful. Our men soon reached the summit, scattering the enemy, and taking some hundreds prisoners. Fifty or sixty unfortunate wretches concealed themselves in a house at the top, until the affair was over, and our men had piled our arms, and were kindling their night-fires, when they sallied out in a body, and attempted to escape down the hill. At the first rush our men seized their arms, which were loaded, pursued them with a loud cheer, and shot or knocked down almost every man. They were stripped soon after, for this process takes place wonderfully early, and by no visible agency; and I well recollect, when the moon rose, seeing their plump white corpses scattered over the field. In the morning we were shocked to see their bodies mutilated of their fair proportions, and all the fleshy and protuberent parts cut clean off down to the bone. How this happened none could say; although a report was current at the time, that a certain ingenious regiment in Byng's brigade, authorised to recruit inside of Temple Bar, and pick up all the low talent of London, had metamorphosed the poor defuncts' hams into pork, and exchanged this with the Portuguese soldiers for rum. One of the officers of the 66th averred that he heard two of the culprits chuckling at the trick."—*Henry's Events of a Military Life.*

The French Regalia.—The general inventory of the diamonds, pearls, and jewels of the crown of France was first made under the empire in 1810. A verification of that inventory took place under Louis XVIII., on his return from Ghent, whither those jewels had been carried during the 'hundred days; and all the different pieces having been taken asunder, the diamonds, pearls, and jewels, which composed them weighed and valued, it was found that those jewels amounted in number to 61,312, that they weighed 18,751 7-32 carats, and were worth 20,900,260f. A new verification was lately made, in virtue of the law of the 2nd of March, 1832, by Messrs. Bapst and Lazare, the jewellers of the crown, and no change was found either in their number, weight, or value.—*Commerce.*

Cabalistics.—The *Courier Français* published the following remarks:—"The cabalistic number 13 is connected in a singular manner with the life of Louis Philippe, king of the French. He was born in 1773. He emigrated in 1793. His emigration finished in 1813. He is at present in the 13th year of his reign. In 13 years the Count de Paris will be of age. The king has 13 palaces, the Tuilleries, the Louvre, the Palais Royal, the Elysee-Bourbon, Neuilly, St. Cloud, Mendon, Versailles, Compeigne, Fontainbleau, Eu, Pau, and Rainy. The civil lists amount to 13,000,000 francs. On the 13th of July the Duke of Orleans died. The king has 13 children and grandchildren, His life has been 13 times in danger since 1830. In fine, the king has seen 13 governments established in France including his own.

Cruelty to Animals.—A late number of the *Lancet* contains a notice of a certain experiment performed on cats, one which is peculiarly brutal in its character, and not of any scientific importance in its results. A foreigner of the name of Weinhold took away the brain and spinal marrow of one of these animals, and filled up the space thus made with an amalgum of mercury and zinc. Life appeared to be instantly restored, the animal lifted up its head, opened and shut its eyes, and looking with fixed stare, endeavoured to walk; and whenever it dropped, tried to raise itself upon its legs. It continued in this state twenty minutes, when it fell down and remained motionless. During all the time that the animal was thus treated, the circulation of the blood appeared to go on regularly; the secretion of the gastric juice was more than usual, and the animal heat was re-established. Although it is not stated, the cat must have been alive, when this barbarian cut away its brain and spinal marrow, or else the processes just described could not have been reproduced, and we can easily believe that a person capable of thus torturing an animal would not hesitate, were it not for penal restriction, at repeating his scientific experiment on human creatures.

We have written to the zealous and active secretary of the London Society to Prevent Cruelty to Animals, to search out, and endeavour to have punishment inflicted upon this foreign barbarian.—Ed. D. L. J.

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Our readers will perceive that we have made a slight alteration in our Type The difference between original articles and extracts will be more distinct;—and we expect to have the printing executed by hand, in a better style.

In consequence of having made the alteration late in the month, the publication of this Number will probably be delayed for a day or two.

Reviews.

The History of China, Pictorial and Descriptive, from the earliest period to the present time. Part 7. By Miss Corner. London: Dean and Co.

THIS Number opens with plates of a tea-garden and the newly acquired island of Hong Kong, about 35 miles from Macao, formerly an unimportant appendage to China, and inhabited only by fishermen, but now a valuable and improving station for the British fleet, having been ceded to England at the late peace. Much of the difficulty of the opium question arose from the general *private* smoking of that drug by the people, which contributed to keep up the extensive demand.

> "Smoking is not confined to the male sex, nor to the lower class of females; but every Chinese lady has her richly ornamented pipe, which would really be an elegant appendage, if it did not involve so unfeminine an indulgence. The usual employments among the Chinese ladies are, working embroidery, playing on different musical instruments, and painting on silk and rice paper."

The caprice or ignorance of the government is so averse to change that the people are not allowed to alter the fashion of their dress even for a more convenient one. However, even this has its advantages, if the dress be not very inconvenient in itself. Much trouble, time and expense is thus spared to those who, perhaps, urged by the caprices of fashion, are often obliged, in our more independent countries, to submit to very inconvenient alterations.

> "The costume of the Chinese, being regulated by law, is not subject to the caprice of fashion or individual taste, except in such trifling particulars as produce no alteration in the general style. The dress of a Chinese lady is not different from that worn in ancient times; it consists of a short, loose robe, confined round the throat with a narrow collar. The robe is worn over a long, full skirt, and both are made of richly embroidered silks. The sleeves are wide, and sufficiently long to fall over the hands, and the hair is gathered up in a knot at the top of the head, and is fastened with golden bodkins, and adorned with flowers. They all wear trowsers, like the Turkish women, and their tiny shoes are of satin, silk, or velvet, beautifully worked with gold, silver, and coloured silks, the soles being of rice paper, from one to two inches in thickness, and covered outside with white leather, made from pigs' skin. A gentleman usually wears, in the house, a loose robe of silk, cloth, or in summer, of some lighter material, with a cap also suited to the season."

If he be a Mandarin, a ball is worn on the top of the cap, to designate the class to which he belongs. The summer cap is as light as a chip, to which it bears a resemblance. It is made of bamboo, in the shape of a cane; and if the wearer be a government officer, has attached to the ball a crimson silk ornament, which hangs like a fringe. The winter head dress is of satin, with a wide brim of black velvet, turned up all round, and the usual adornments of ball and fringe at the top. A Mandarin of the first rank is known by a red ball on his cap; a transparent blue one denotes the second class; and the other grades are distinguished by white, opaque blue, crystal, gilt, and other balls.

> "A Chinese is not at liberty to wear his summer or his winter cap when he pleases, but is obliged to wait for the time appointed by the Board of Rites, for making the alteration in his head gear. The announcement is made in the Gazette, when the viceroy of the province lays aside the cap he has been wearing for the previous six months, to adopt that of the approaching season, and the example is immediately followed by all other mandarins and officers within his government. It is very usual to wear at home a cap of silk or velvet, fitting closely to the head. Furs are very much used in the winter costume; for as the Chinese have no fires in their apartments, they wear a great quantity of warm clothing, putting on one garment over another until they are sufficiently protected from the cold. Dress boots are of velvet or satin, with the universal thick white soles; and a fan in an embroidered case hanging from their girdle, is as indispensable a part of the costume of a Chinese gentleman as his cap or gown."

It is rather curious that, among the personal decorations of the Chinese, there is not one they prize more highly, or on which they bestow more attention, than the plaited tail, which, at first, was detested as a disgraceful badge of dependance, and is still a sign of their subjection to the Tartar.

> "The beauty of the tail consists in its length and thickness; and many who have not hair enough to make a handsome braid, supply the deficiency with false hair and silk; but whatever pains and cost a man may bestow upon improving his appearance by the aid of art, he can have no pretensions to personal attractions, unless his figure indicate that he has not been kept upon spare diet; and indeed there are no people in the world who are fonder of good living than the Chinese. The tables of the wealthy are supplied with a great variety of rich dishes, among which is a soup that supplies the place of our turtle. It is made of the nests of some particular birds found chiefly in the island of Formosa—the trade in which is a government monopoly.* Beef is not very often eaten, but pork is abundant, and mutton is brought to the tables of the great, although sheep are very scarce in the southern provinces, where the land is little devoted to pasture. Vegetable soups, poultry and game, dressed in various ways, and many excellent made dishes, are brought to table; and the dinner, which may consist of six or eight courses, is always concluded with a bowl of rice served to each person."

The vast population of the country renders it necessary for the resources of the land to be called into action in every available way; and hence, finding that from a given quantity of land they can obtain more rice and cotton than mutton and wool, they entirely exclude the latter, and debar themselves from animal food, with little exception. As they do not use either milk, butter, or cheese, the animals that produce them are rarely met with. In consequence of rice being their general food, the greatest attention is bestowed on its proper cultivation.

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* We have an account of these singular birds in the present Number.

> " The great object of cultivation is rice, the staple food of all classes, from the prince to the peasant. Most of the plains present an endless succession of rice or paddy fields, which, in the early stage of the crops, exhibit a vast surface of bright green, but turn yellow as the grain ripens. The seed is first sown in small patches, flooded with a particular preparation of liquid manure, which promotes its immediate development, so that in a few days the shoots are five or six inches in height, when they are transplanted to the fields, some of the labourers being employed in taking them up, others in making holes to receive them, and a third party in dropping them into the holes about six together. All these men stand up to the ankles in water; for it is requisite that rice should be kept constantly wet, or it would be spoiled; but when the rice is ripe, the fields are drained; so that the reapers, whose labours commence about midsummer, work on dry ground."

It seemed marvellous to the understandings of Englishmen, that the Emperor could be kept in such ignorance of the actual state of affairs, whilst he reigned with such despotic power over the lives and properties of his subjects. We remember at the commencement of the war, that when the English ship of war sunk a number of junks that attacked her, a tailor was employed to make a number of suits of clothes, (2000 if we remember rightly) similar to those worn by the English and these having been pierced with holes and dipped in the blood of slain animals, were sent to the deceived Emperor as trophies stripped from the bodies of the English barbarians slain in the battle. How the Emperor was thus imposed upon was beyond our comprehension, but we are now let into the secret.

> " Nothing is allowed to be published in China untill it has been examined and approved by the members of the Han-lin College, who take care that not a line shall be printed which might be displeasing to the Emperor, who is, by that means, often kept in ignorance of many public proceedings, which are either prohibited from appearing in the Gazette at all or are entirely misrepresented in it, a case of daily occurrence during the late war, when every defeat was metamorphosed into a victory."

It is probable that British Cutlery will find an extensive market in China when our Commercial relations shall have been perfected, as they are very deficient in this branch of manufacture. In every thing connected with the metallic arts there is a promise of a greatly increased trade. The ingenuity of the people will be no bar however to their greatly improving their own manufactures, as is evident in many curious specimens of their ingenuity which we have long been in the habit of obtaining in China, particulary carved ivory balls.

> " It is almost superfluous to speak of the excellence to which the Chinese have attained in the carving of ivory, since there are few of us who have not had many opportunities of judging for ourselves of the unrivalled beauty of their workmanship in this delicate art; the most perfect specimens of which, are perhaps, exhibited in the models of ships, and the balls contained one within another, to the number sometimes of twenty, or even more. Nothing can afford a greater proof of the patience and perseverance as well as of the taste, of a Chinese handicrafts man, than one of these elegant baubles, each ball being exquisitely carved, and no two alike in pattern. Each of the balls rolls freely within that which encloses it, and is visible through apertures, so that however many there be, the beauties of each can be examined, and the number of the whole counted. Much time is spent upon the carving of these toys, for the cleverest artist will employ a whole month in the execution of each separate ball, consequently, the labour of two years is not unfrequently bestowed on the production of a single toy, which is formed out of a solid globe of ivory and has no junction in any part. The outside of this globe is first carved in some very open pattern, and is then carefully cut with a sharp fine instrument, through the openings, till a complete coating is detached from the solid part inside, as the peel of an orange might be loosened with a scoop from the fruit, without being taken off. One hollow ball is thus formed, with a solid one inside of it. The surface of the inner ball is then carved through the interstices of the outer one and when finished, is subjected to the same operation as the first; and thus a second hollow ball is produced, still with a solid one of smaller dimensions inside. This process is repeated again and again, the difficulties increasing as the work proceeds; till, at length, only a small ball, of the size of a marble, is left in the centre, which is also ornamented with figures, cut upon it, and then the ingenious, but useless bauble, is complete. This process is said to be performed under water."

The disputed question of the preparation of the tea leaf appears here to be set at rest, as we are informed that all the different kinds of tea are the produce of similar trees; the varieties being produced by the age of the leaf and the different soils in which it is planted.

> " The tea growers are generally small proprietors who, with the help of their families, cultivate their own pieces of land, which are divided from those of their neighbours by a narrow path or a narrow channel. The farmers after having gathered their crops, partially dry them in the sun, just sufficiently to prevent their being spoiled, and in that state they are sold to the agents of the Hong merchants, who usually contract with the farmer, to take his whole crop at a certain price. The tea is then removed by the contractors, whose business it is to complete its preparation which is done by drying in iron pans over a charcoal fire, care being taken to prevent its burning, by stirring it the whole time. Much more labour is expended in preparing the superior kinds of tea, than is bestowed on those of coarser quality; as, for example, the finest sorts of green tea are dried in very small quantities, and after having been carefully sorted, every leaf is rolled, separately, with the hands; while the commonest black teas are dried in baskets, piled one upon another in long rooms, in a drying house, when charcoal fires are made upon a brick floor; and when this process is completed, the leaves are rolled by handfulls at a time, without been sorted. All the intermediate sorts are prepared with more or less care, according to their quality. The picking and rolling are performed by women and children; the drying and packing by men. A difference is observed in the packing of the various kinds of tea, as well as in their preparations, the green being only shaken into the chests, that the leaves may not be broken, while the black is rudely trodden down by Chinese labourers. A popular notion formerly prevailed, that green teas derived their colour from being dried on copper, and were, therefore, injurious; but this is found to be a mistake, although there is no doubt that the Chinese have, on many occasions, where the demand for green teas has been very great, manufactured them from black, by coloring the leaves with drugs, or juices of some kind."

The influence of Aristocracies on the revolution of nations; considered in relation to the present circumstances of the British Empire. By James J. Macintyre.—London: Fisher, Son & Co.

We cannot do better than to let the author declare his own intentions.

> " This work is an attempt to bring from general history, ancient and modern, a few passages to bear upon the peculiar condition of the British empire, in its political, fiscal, commercial and colonial relations, but particularly on those circumstances which affect the comfort and happiness of the great mass of the people. This attempt may be compared, or likened, to the action of a man. with a sounding staff in his hand, who walks over the surface of history, and endeavours to indicate where danger exists beneath, in consequence of the hollowness of the ground, or of the collection of materials in a state of fermentation, which will work into an explosion. The conclusion, or result of the investigation and comparison is, that there is at present in this country, the excited action of that law of society that terminates in social convulsion, out of which will arise the body of military despotism, or, will emerge a new constitutional fabric, cemented in the alluvium deposited by the flood of revolution."

The leading argument of the work is to endeavour to show that the upper classes have, in most nations, been the cause of oppression to the lower or labouring classes. Many correct historical examples have been advanced on this subject, both in religious and civil government; but it is evident that where one class is elevated, as must always be the case, the inferior class must be more subject to the changes in commerce and manufacturing interests, totally independent of the acts of their superiors. Neither does it follow, that the upper classes are unjust because the lower classes are badly paid for their labour. Corn was dear and heavily taxed in years that are past, when the country arrived at its highest commercial prosperity, and yet the people were much better circumstanced than they are at present: clearly showing that there must be other reasons than the tax upon corn. The advocates of the abolition of this tax have, in our opinion, greatly weakened their cause by the violence of their assertions, and the absence of commercial reasons in their writings. If they want to convince the agriculturists, let them take, as an example, the daily wages of a labouring man—say one shilling—and let them show that he could as easily obtain an equivalent for the food, &c. which that one shilling now purchases, if the tax were entirely abolished, and then their opponents may be convinced of the truth of their position. We are quite sure that in Ireland such would not be the case for a long period, if at any time. Their line of conduct has been as unwise as unsuccessful The system of reduced prohibitionary duties on which the government of the country are now acting, will, we trust, tend to benefit the country; but we hold as utterly absurd the assertion that benefit would accrue to the country by the sudden abolition of all protecting duties. It would, without a corresponding and reciprocating system by other nations, injure our own manufacturers and benefit foreigners. We differ from our author in the assertion that the position of England is similar to those of Russia and Mexico. The reason why those countries prohibit foreign manufactures is stated to be on a principle of seclusion of intercourse with civilized people. Now, this is *not* true of England, into whose prolific bosom every wind of heaven pours the production of every clime, in return for the unrivalled productions of her own industry. The sentence is as follows:

> "It is strange that this country should find in Russia and Mexico, prototypes or imitations of her policy: but so it is. These two nations are contrasts to each other in many particulars; but it will be admitted on all hands, that neither can be held forth as a model for this country. Each has round all its borders, planted the standard of seclusion from intercourse with civilized people. The world knows what Russia has been—what she is; but no one can predict what she will be. Mexico, with a churlish temper, refuses to admit the commerce of England, France, and other nations, or only admits it on conditions which neutralize the benefit. She wants to make herself a manufacturing country, and fixes her tariff accordingly; but foreign cotton, in any shape, is to her an abomination—the raw material is prohibited, and cotton yarn is charged with a prohibitive duty. In articles of food, the spirit of monopoly rages, and absolute prohibition of introduction is passed in the following articles:—wheat, and all kinds of grain and seed, flour, rice, sugar of all sorts, coffee, molasses, common salts, starch, aniseed, and salted pork. The Mexicans are a singular people. About twenty years ago, they borrowed large sums of money of wealthy and credulous citizens of this country, and after a suspension of the payment of interest, and a state of insolvency for many years, a people in possession of the richest silver and gold mines in the world, are now paying dribbling instalments to account of their debt! The author of these pages, from a residence of several years, retains many agreeable reminiscences of that interesting country, and, with a desire for its welfare, he points out what he conceives to be a fatal error in its policy."

The details respecting corn and other prohibitionary laws show much research, but the writer as well as most other anti-monopolist and political writers of the present age entirely overlook the primary cause of this enormous taxation. It is owing to the long and expensive wars in which this country has been involved, and for the success of which this class of writers sung their *Io paeans*, and rung their *joy bells*, and put *candles* in their windows, with the rest of their fellow countrymen, though they seem to forget that increased taxation *must* follow. In the present state of things, a heavy taxation is inevitable. We grant that such a state is unhealthy for the nation and fraught with danger to the government, but to write volumes on the blessings of a state with a light taxation is not proposing anything beneficial to ourselves. The root of the evil is the long wars: let them therefore fairly examine the question of their necessity and propose a remedy in future. Many noble minds have spent much valuable labour, useless to the country, because they have argued against consequences which are the *inevitable* results of *war*. It is the business of the state to endeavour to find the most convenient mode of levying these taxes and the articles most likely to produce the necessary revenue by pressing most equally upon all. On the subject of general taxation our author thus humorously writes:

> "Out of the innumerable items taxed in modern commerce, the only articles which were allowed perfect freedom of entry were bullion and diamonds—turbot and lobsters! Now, bullion and diamonds, have no relationship to turbot and lobsters; such as the connection between bread and butter. The many hundred thousand familes to whom the eatables would be most welcome, have nothing to do, even in thought, with the jewels and precious stones. With regard to the first, there is something more than meets the eye; the very principle of the navigation laws is broken through, in favour of these articles of food. Every other sort of fish was prohibited to be imported in foreign vessels, or even foreign caught fish brought into port in British ships. It would appear as if the safety of the monarchy depended on turbot and lobsters;—lobsters are to turbot, what eggs are to bacon, for turbot requires lobster sauce, these form such savoury dishes for aristocratic palates that eels could not slide through the fingers of the law makers, but were taxed by the ship load at £13."

It is the author's opinion that Great Britain, from her central position, will always be a commercial nation, and runs no risk of sinking into obscurity or ruin, like many of the states of antiquity His reasons are elaborately and ingeniously elucidated, and supported by the natural maxims of political economy.

> "At the present time there is antagonism in opinion, on the true sources of greatness of the British empire. The fate of Tyre, Carthage, Venice, and Genoa, is ever before the mind, when the commercial nature of this country is under consideration. It is a favorable geographical position which attracts and fixes commerce to a country, or city, or harbour. It is the situation which, as affording a facility of collecting produce and merchandize, and of transit to near or distant countries, gives a value to the place. Such observations ought to occur to the mind, on considering the present state of the British empire, and they will help to remove the apprehension of the transfer from this country of a great commerce. Tyre, and the other ancient commercial states, fell to destruction, either under the judgment of Heaven, or in consequence of the establishment of markets more favourably situated. The Crusades, by pouring a deep stream of men and wealth from the north to the south, enriched Venice and Genoa; and for several ages the commerce of the world was divided between those rival states. But the geographical situation of the British islands will command for them a full share of the commercial intercourse with the universal globe, as long as mankind continue to have habits and tastes similar to those possessed by the generations that have gone before. It is not a mere figure of speech to say, that London is the centre of the world, but it is literally and geographically true. But not to be too precise in an admeasurement of this kind: take the centre of England as the point whence to draw the lines, and it will be found that eastward to Kamtschatka, and westward to Behring's Straits, the distances are about equal; from the same centre, the lines drawn to Pekin and to Lima—to Canton and to Mexico—to Calcutta and New Orleans—to Cabul and to New York—to Bombay and Washington—to the Cape of Good Hope and to Buenos Ayres—to Alexandria and Moscow—are respectively about the same lengths. Hindostan and the West Indian Islands are about equidistant. So are Ceylon and Panama—Sumatra and California—the Caspian Sea and Newfoundland—Spitzbergen and Hudson's Bay. And taking the greatest rivers of the world, we shall find that the mouths of the Mississipi and the Ganges—of the St. Lawrence and the Niger—of the Amazon and the Indus—are respectively about equidistant from Great Britain. The distances are not the sailing ones, but are taken roughly from lines drawn across the map or chart of the globe."

In the appendix to the work is a curious list of *Decennial or ten years' periods* in English history, to which the author attaches importance, as containing highly remarkable events. It begins with 1642, and notes the events of all the decennial years to 1842. Altogether, the work contains much statistical, fiscal, and historical information, the result of active thinking, and patient research, and will be found very interesting and valuable to the general reader.

A Narrative of a Visit to the Australian Colonies. By James Backhouse. Illustrated by 3 maps, fifty etchings, and several wood cuts. London: Hamilton, Adams and Co.

(Continued from our last Number.)

THE penal colony of Macquarie Harbour, where our travellers were now located, was intended, as it has proved, to be a place of severe privation for hardened offenders transported from our other settlements. Some statistical notices will be read with interest.

> "Notwithstanding the fine scenery of Macquarie Harbour, it was a gloomy place in the eyes of a prisoner, from the privations he suffered there, in being shut out from the rest of the world, and restricted to a limited quantity of food, which did not include fresh meat; from being kept under a military guard; from the hardship he endured, in toiling almost constantly in the wet; at felling timber, and rolling it to the water, and from other severe labour, without wages, as well as from the liability to be flogged or subjected to solitary confinement for small offences.
>
> Out of eighty-five deaths that occurred here in eleven years, commencing with 1822, only thirty-five were from natural causes; of the remainder, twenty-seven were drowned, eight killed accidentally, chiefly by the falling of trees, three were shot by the military, and twelve murdered by their comrades. There is reason to believe that some of these murders were committed for the purpose of obtaining for the murderers, and those who might be called upon as witnesses on their trials, a removal from this place, though at the ultimate cost of the life of the murderers, and without a prospect of liberation on the part of the others. Some

of the prisoners who returned hither with us in the Tamar, had been witnesses in such cases; but they had had the privilege of a change, for a time, to the penitentiary at Hobart Town! These circumstances, with the fact, that within the eleven years, one hundred and twelve prisoners had eloped from this settlement, proved also that its privations were felt to be very great. Escape from Macquarie Harbour was well known to be a difficult and very hazardous undertaking, and very few who attempted it reached the settled parts of the colony. Out of the one hundred and twelve who eloped, sixty-two were supposed to have perished in the bush, and nine were murdered by their comrades on the journey, for a supply of food. For this purpose, the party proposing to attempt traversing the formidable forest, selected a weak-minded man, and persuaded him to accompany them; and when the slender stock of provisions which they had contrived to save from their scanty rations, was exhausted, they laid violent hands on their victim. One party, when lately apprehended near the districts, had in their possession, along with the flesh of a Kangaroo, a portion of that of one of their comrades! An appalling evidence of how easily man, in a depraved state, may descend even to cannibalism. Of the small number who reached the settled part of the country, some were immediately apprehended; a few became formidable marauders, and were ultimately shot or executed; others escaped to New South Wales, but continuing their evil practices, were transported to Norfolk Island; and of the remainder, who were an inconsiderable number, the circumstances remain doubtful."

Amongst the desolate prisoners in this dismal abode, were some whose hearts were awaked to a sense of their sins, and who became regenerated by the powerful influence of Divine grace. This blessed and happy change was singularly illustrated by the condition of a reformed convict, which must strike the most careless reader:

> "A man who lost his arm some time ago, was awakened to a sense of his sinful condition, whilst in imminent danger from this accident. He said the Lord found him when he sought Him not; yet so strongly did he feel his own desperate wickedness, that he could entertain no hope, until he was reminded of the mercy extended to Manasseh, Mary Magdalen, and others of similar character. He told me he had been guilty of house-breaking and many other crimes, for which, he said, he had been three times sentenced to this settlement; he said also that the gallows was no terror to him, and that he was so hardened, that he did whatsoever he wished, in defiance of the laws of God and man, till the Lord visited him and brought him low. He afterwards ranked amongst those who having been forgiven much, love much. The alteration in his conduct was noticed by all around him: the Commandant said his very voice was changed; formerly it was ferocious, now it was mild; formerly he was contentious and addicted to fighting, now he was gentle and peaceable; formerly he was so given to swearing, and the habit of it had such power over him, that, after he had turned to the Lord, if any thing irritated him, he had to lay his hand upon his mouth, that he might not swear; now he was to be found warning others against this sin.
>
> "The men who had turned from their evil ways, were allowed to sit in a room used for an adult school, in order that they might not be disturbed in reading and meditation, by those who still remained in folly, and would be disposed to deride them; and this man on account of his infirmity, was allowed likewise to retire alone to one of the caves in the base of the island, to meditate and pray. Though he had lost an arm, he was not idle, but employed himself in carrying wood for fuel, after it was landed from the boat. I invited him to shew me his cave; he readily consented, and led me down a steep and slippery path at the back of the island. The cave was damp on one side, and had a honeycomb-like incrustation upon it; its sloping roof was dry; a few old palings formed its loose floor; and a cold wind blew through it from a small opening at its farther extremity. I could not stand upright in it, but entered by stooping; he followed, and we sat down upon its floor, and conversed for a while on the mercy of God to sinners, in sending his Son into the world to save them, and in calling them by his Spirit to come unto Him.
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> "This cold and forlorn place was much prized by its occupant. In it (to use his own words) he contrasted his privilege, in being allowed to meditate in quiet, and to wait for the Spirit's influence, with the privations of those who in former ages wandered in sheep-skins and goat-skins, in deserts and mountains, and in dens and caves of the earth, being destitute, afflicted, tormented. Before quitting the place we knelt before the Lord, and I prayed for this 'brand plucked out of the burning' as well as for myself. When I ceased, he prolonged the voice of supplication, ascribing glory, honor, and praise to Him that liveth for ever and ever; who in the riches of his mercy had called him out of darkness into his marvellous light, and translated him from the kingdom of Satan, into the kingdom of his own dear Son. In the course of conversation, this monument of Divine goodness desired that I would tell audacious sinners of the mercy that God had shewn to him; and assure them that he found such comfort and pleasure in righteousness, as he never could have thought of whilst he remained in sin. When he became awakened he found himself in ignorance also, and since that time he had learned to read."

(To be continued.)

Hydropathy. The Theory, Principles, and Practise of the Water Cure, shewn to be in accordance with Medical Science and the teachings of Common Sense. Illustrated with many important cases. By Edward Johnson, M.D. author of "Life, Health, and Disease," with nine engravings.—London: Simpkin, Marshal and Co.

(Continued from our last.)

Our former notice of this work brought us to the account of the annual consumption of food and oxygen by the human body; and we now proceed to give the remainder of the theory which accounts for the disappearance and counteracting principle of this enormous addition to the animal frame.

> "Our senses demonstrate to us that there is given off from the body every day, in the shape of breath, perspiration, &c. &c. a very considerable amount of matter. Yet, at the end of the year, as we are no heavier, so also are we no lighter. These facts demonstrate that there are, going on in the body, two *opposing* processes; a process of *addition*, exactly counterbalanced by a process of *subtraction*; or, in other words, alternate waste and *reproduction*. The most ordinary experience shows, that at each moment of life, in the animal organism, a continued change of matter, more or less accelerated, is going on; that a part of the structure is *transformed* into unorganised matter, loses its condition of life, and must be again renewed.* I have said that an ordinary man consumes two pounds of oxygen every day, and yet that he is at the end of the day no heavier. What, then, has become of this oxygen? It has united with certain of the elements of the body, and having done so, it quits the body again, in the form of what we call breath, carrying the elements of the body with which it has united, along with it. *Two pounds* of oxygen enter the body daily, and unite with two pounds, or thereabouts, of the materials of the body itself, in company with which it quits the system again. The place formerly occupied with the two pounds of material carried off by the oxygen, is supplied by the two pounds of fresh material daily taken into the system in the shape of food. By this simple and beautiful contrivance, the exact weight of the body is maintained, the worn out materials are carried off, and their place supplied by new materials. The manner in which the inspired oxygen gets into every part of the tissue of our organs is as follows:—The blood, sent out by the left ventricle of the heart, to be distributed to every part of the body, cannot return to that ventricle, to be distributed a second time, without first passing through the lungs. In its passage through the spongy texture of the lungs, the globules, or blood discs, as they are sometimes called, which float in the blood, like shoals of microscopic fishes in a current of water, absorb oxygen from the air with which the lungs are supplied by respiration. The globules, or blood discs, having *loaded themselves with oxygen*, then proceed, borne onward by the current of the blood, like a swarm of bees laden with honey, from the lungs to the left ventricle of the heart, to be by it redistributed to every point of the body—of course carrying oxygen along with them which they distribute at every point of the body; as bees, when constructing their combs, deposit their wax at every point of the comb. I wish, particularly, to impress upon the reader's mind, the fact, undoubted and indisputable, that the black or venous blood, when circulated through the *arteries*, is an *inevitable poison*, producing *death* when the quantity is large, and *disease* when it is but small."

The theory of the production of caloric or heat in the human body, which Liebig has so amply demonstrated, and which has latterly given rise to so much discussion, is very clearly defined in this volume, and so clearly explained, that it is comprehensible to every class of readers. It is illustrated, as are also the different acknowledged theories of the mechanics and chemistry of the human body, by very satisfactory diagrams.

> "The most accurate experiments have proved that man, in the shape of food, consumes 13·9 oz. of carbon daily. Now, according to the experiments of Depretz, one ounce of carbon evolves during its combustion, (that is, its combination with oxygen) as much heat as would raise the temperature of 105 oz. of water at 32° (freezing point) to 167°; that is, would increase its temperature by 135°; in all, therefore, 105 times $135° = 14207$ degrees of heat. Consequently the 13.9 oz. of carbon which are daily converted (by combination with oxygen) into carbonic acid in the body of an adult, evolve $13·9 \times 14207° = 197477·3°$ degrees of heat. This amount of heat is sufficient to raise the temperature of 1 oz. of water by that number of degrees, or from 32° (freezing point) to 197477·3°; or to cause 136·8 lbs. of water at 32° to boil; or to heat 370 lbs. of water to 98·3° (the temperature of the human body); or to convert into vapour 24 lbs. of water at 98·3°.
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> "Since then, the mere combination of oxygen with 13·9 oz. of carbon is sufficient to evolve this vast amount of the heat; and since it is *impossible* for these elements to combine in these quantities *without* giving out this amount of heat, the mode in which the temperature of the body is daily sustained can no longer be a mystery. But, *besides* this amount of heat, obtained from carbon and oxygen, the animal temperature is also assisted by the combination of oxygen with hydrogen."

Amongst the numerous invalids who appear to have been benefited by Priessnitz, we are informed that his want of *medical* knowledge, which he entirely repudiates, retards the cure of some of his visitors, or causes to them a useless expense of time and money. A man, however naturally skilful he may be, who does not possess *medical* skill enough to distinguish between organic and accidental disease, must, in many cases, work in ignorance of the nature of the affection, and consequently must often fail. One example is so striking. that we present it to our readers.

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* Liebig.

> " So, again, in epilepsy and paralysis; if these affections have arisen in consequence of some irremovable mechanical agent, as the growth of a spicula of bone, nothing can cure then. But if they have been produced by a clot of blood, which has oozed from some small ruptured vessel, then, I say, and repeat *hardily*, because I have *seen* it, *such cases are curable* by the water treatment united to a *severe course* of abridged diet; or, as I shall call it, *compulsory absorption*. It must also be *distinctly* and *permanently remembered*, that the hydropathic remedy, so seemingly simple, is not *unique and one*, but *several;* and that effects *diametrically opposite* to each other may be produced by it. To all this it may be applied that *Priessnitz* is not a scientific man. True; but it must be recollected, in the case of Priessnitz, that a long experience of twenty years and in a vast multitude of cases, coupled with great attention, perseverance, and an extraordinary acuteness of observation, have, to a considerable extent, supplied the place of scientific knowledge. But no rational man can doubt, that the possession of scientific knowledge would enable even Priessnitz to be much oftener successful than he is, and would lesson the number of his failures. Certainly, it would prevent his taking in and submitting to a tedious treatment many cases which such knowledge would have taught him at first were perfectly hopeless. There are many such cases in the establishment at this moment. For instance, there is a case of anchylosed joint. A gentleman, while hunting, fell from his horse, and hurt his elbow. In the course of time the joint became *quite stiff*, when he came under the care of Priessnitz. He has been at Graefenberg already for five or six months. But if he were to remain there all his life his joint would remain as stiff as it is at this moment. For the olecrannon process is snapped off, the internal structure of the joint broken up, and the whole glued and soldered together, by a deposition of bony matter, into one solid mass. This gentleman is disappointed, and of course dissatisfied; and in this way much chagrin and ill feeling is engendered, which might have been avoided; and that reproach is thrown upon the *practice*, which, in strict justice, is only due to the Practitioner."

Although we are able from *experience* to bear testimony to the *occasional* bad food and bad odors of a German dinner in the country inns, but never in the substantially provided and splendid hotels in larger towns, yet we were not prepared for such a host of disagreeables as the patient of Graefenberg has to encounter; we shall let the author relate his own story.

> " With regard to the diet used at Graefenberg, I cannot help offering one or two remarks. The principal animal food there placed upon the table is boiled beef, done to rags, and the veal of calves not more than a day or two old. Hares, coarse, dry, and tough, being *first boiled*, and then baked. Baked pork, baked goose, and baked duck, with baked sausages, help to vary the répast. Add to this, old mutton, fœtal calf, and cow beef, *stewed in vinegar*, succeeded by rancid ham served with mashed *grey* peas. While I am writing, I am overlooked by a gentleman, who declares that this statement will not be believed in England. I think *that* is extremely probable. It is, nevertheless, perfectly true. Cucumbers cured in nothing but salt and water, which the Germans eat with avidity, sour krout, hard dumplings, pancakes with cheese curds rolled up in them, puddings made with poppy seeds—these also are the standard and daily delicacies of the Graefenberg table. Add to all this, that the only bread on the table is a composition of barley and rye; add, moreover, that the veal, hare, &c. is constantly either mouldy or putrescent, and thàt the bread is invariably perfectly sour, and the reader will readily acknowledge that here is an assemblage of savors, flavors and odors exceedingly well calculated to give *him* an indigestion who had never one before. The food is so insufferably bad, that a party of gentlemen, only the other day,* after having stood it as long as they possibly could, were literally compelled to spit it out of their mouths, and retire, in order to buy and cook, as well as they could themselves, sufficient food for their dinner; and they have quitted Graefenberg (that is, the Graefenberg table) in order to purchase food for themselves in the town of Friewaldau. It is lamentable that so important a matter as diet should be so utterly scorned by Priessnitz as it is. And it cannot be doubted that this wretched diet keeps the patients much longer under treatment than would otherwise be required; and that, in many instances, it obstructs the cure altogether. But the numerous and important cures which he is constantly affecting, notwithstanding all this, makes him reckless of diet; and bad food is *cheaper* than good. He does not see, however, that if he gave his patients wholesome food, he would cure them in *half* the time; and thus, by a more rapid succession of guests he would acquire the same amount of emolument, and add greatly to the character of the *wasser kur*. But he has more patients than he can possibly attend to, and more money than he knows what to do with. Success has made him careless."

We have not room far farther notice of this interesting volume; but whoever wishes to know something of the wonderful structure of his body, and the chemistry and machinery by which it is so wonderfully supported, will scarcely turn away unsatisfied by its perusal.

A system of Modern Geography, according to a new arrangement, comprising a full description of the Natural Features of the Surface of the Earth, and in which the places described are arranged according to their natural position. By A. Sinclair. Parsonstown; Shiels and Son: London; Duncan & Malcolm: Dublin; Cumming.

It is an agreeable feature in the literature of Ireland, to see a book very well printed, issued from the press of a country town in the centre of Ireland; but it is doubly satisfactory to find the book to be such a one as has our unqualified approbation. The peculiar feature of this work is, that a natural arrangement of places lead the reader or student, like a traveller over the different regions of the earth, as if he were really making a tour through the various countries. Thus, in describing the rivers, the reader may fancy himself wafted along their waters, and viewing their various towns as he passes along; for he has in this volume the name, population, productions, and much statistical information respecting them. One example will suffice to illustrate the style.

> " The Jordan rises from the southern slopes of the Anti-Lebannon range of mountains, and flows southwards for about fifteen miles, till it falls into the small lake called, in Scripture, the "Waters of Merom." This lake varies in size according to the season of the year. Its average size may be seven miles long and three miles broad. The Jordan, after leaving this lake, flows for about ten miles, and then enters the larger lake, known in Scripture by the ' Sea of Galilea.' This lake is from twelve to fifteen miles long, and from six to nine wide. It is surrounded by mountains; and the scenery is remarkably beautiful. After the river leaves the Sea of Galilea, it flows southwards in a tortuous manner till it falls into the Dead Sea. The whole length of the Jordan, if measured along the windings, is about 150 miles; but in a straight line, not more than 100 miles. The river is fordable in several places in summer, but overflows what is called the Lower Valley in winter. This lower valley is about three quarters of a mile wide. The width of the Jordan, where it falls into the Dead Sea, is between two and three hundred feet, and very rapid."

If this work were illustrated by half a dozen good maps *containing the names of the places mentioned in it*, it would double its value.

Literary & Scientific Meetings.

BRITISH ASSOCIATION.

PROCEEDINGS OF THE GEOLOGICAL SECTION,

(Continued at length.)

Friday, Aug. 18.—Mr. Griffith spoke in continuation. He would not enter into any particular description of the strata exhibited in the section from Dorish mountain in Tyrone to Newbliss in Monaghan, which crosses the country in a line nearly parallel with the other just described, but ten miles distant to the N.E. The only point he wished to mention is the evident unconformability between the strata of the subjacent brown sandstone and conglomerate rock, and the overlying red sandstone at the base of the limestone series on the North West side of the Valley of Clogher. This *unconformability* is important, as it appears that the overlying red sandstone, shale, and limestone rocks belong to a distinct period from the conglomerate which lies beneath. And he would farther observe, that *this unconformability is sedimentary*, and did not arise from any disturbing cause, as is proved by a tongue of the upper red sandstone which juts into the brown conglomerate district at Millix, to the North of the village of Ballygawly, while the strike of the brown conglomerate is nearly across the tongue. This unconformability may be traced along the entire line of junction on the south and west sides of the brown district from Pomeroy to Enniskillen. He would add, that proceeding from Ballygawly N.E., the upper sandstone increases in importance until we reach the valley between Kildress and Cookstown, where the series is nearly complete.

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* It must be remembered that this work was written at *Graefenberg.*

He entered more at length than he should have done, had it not been from the great difference which is observable along the line of junction of the brown conglomerate and the upper red sandstone, between Captain Portlock's map and his own. Instead of the unconformability represented in his sections, he makes the two rocks conformable, representing an anticlinal axis at the point of division. The strata of the brown rock dip N.W. at a steep angle, while those of the upper rock dip S. at a low angle, and in the numerous places where the junction is laid bare, in the beds of mountain streams, no appearance of an anticlinal axis is to be seen; on the contrary, the unconformability is quite clear and undoubted.

Captain Portlock, by his colours and numbers, as shown on his geological map, makes the brown rock older than the red sandstone, but still in his section he makes them conformable, and to belong to the same epoch.

In regard to the yellow sandstone series in the valley of Clogher, as shown on the sections, it is not fully developed. It exhibits a base of red sandstone, succeeded by dark gray shale, alternating with impure limestone and grey sandstone, containing eleven varieties of Cythere, and two of Dithyrocaris, with abundance of Modiola Macadami, Cypricardia socialis, &c.

This limestone, at Aghintain, is about eighty feet thick, and contains a profusion of fossils, for the most part common to the upper members of the carboniferous limestones.

Over these shales and limestone is yellow sandstone, which is succeeded by carboniferous slate—lower limestone. Calp shale, and calp sandstone in the Slieue-Beagh mountains, as before.

He should next proceed to consider perhaps the most remarkable and extensive district of yellow sandstone in Ireland. It occupies the whole of the southern shore of Lough Foyle, in the county of Londonderry, between the city of Derry and the basaltic headland of Magilligan, from whence it extends southward to Dungiven, and thence by Draperstown to the base of Slieve-Gallion mountain. The strata in this district is divisible into three portions. The lowest is characterised by its conglomeratic structure, and the absence of shale or calcarious matter. The color of the base of the rock is usually red. The pebbles, or rolled fragments of the lower beds, are of mica slate, similar to the rock on which it rests, and the upper of white quartz, and occasionally of red quartz or sandstone. These strata, in the Douglas river near Draperstown, may amount to a thickness of 600 feet, and hitherto no fossil has been discovered in them.

The second division of the series is distinguished by its containing numerous beds of dark grey shale, approaching to black, alternating with grey sandstone and some thin beds of impure limestone. It is 500 feet in thickness.

The upper, or third division, consists of red sandstones and red conglomerates,—brownish red, and greenish and yellowish white shales, frequently passing into marl, and containing numerous bands of light grey nodular limestone. These bands vary from one to six inches in thickness. These are succeeded by beds of grey shale and white sandstone, containing bands of grey arenaceous, and sometimes conglomeratic limestone, above which is a thick series of beds of dark grey shale, at Cullion, which here forms the upper portion of the series.

He had already mentioned that no fossils have been found in the lower division, or red sandstones and conglomerates, which are best developed in the valley of Ballinascreen, in the Douglas river, and the white water: but this is not the case with the second, or black shale division. It contains numerous fossils, particularly several varieties of Cythere, Modiola Macadami, Cypricardiæ, Murchisonia elongata, and several kinds of fishes, especially Gyracanthus and Holoptychius. Some of these have been described by Captain Portlock, but several are not noticed by him. The thin limestone bands in the white water abounds with obscure atrypas, apparently the Atrypagregaria.

The third, or upper division, which is about 1400 feet thick, contains no fossils; but the grey quartzose, and conglomeratic limestone which succeeds it, contains Orthis crenistria, O filiaria, Sperifer bisulcata, spaltermata, Bellerophon apertus, Lithodendron, Fenestalla, and other fossils of the carboniferous limestone, while the shale which succeeds this produces a profusion of similar fossils, together with many others which usually occur in the upper shales of the calp.

This remarkable deposit of sandstones and shales, which occurs in the valley of Ballinascreen, differs, in some respects, from the districts of yellow sandstone already described, in its containing no thick series of beds of fossiliferous limestone. It would appear that this fugitive, though otherwise important number of the series, is wanting here; but the occurrence of certain fossils, as Modiola Macadami, holoptychius Portlockii, and ten or twelve species of Cythere, the same as found elsewhere, show them to belong to the series of slates which accompany the arenaceous limestone of the north coast of Mayo, and in the Pettigo section, north of Lough Erne.

Another locality in which the same fossils occur, is the carboniferous valley of Ballinamore, in the county of Leitrim, situated between the Cairn-clon-Hugh mountains of the county of Longford, and the Millstone grit district of Slieveaneerin, in the county of Leitrim. The strata of this valley comprehends the entire section of the carboniferous limestone system of Ireland.

Commencing from below, as exhibited in the section of the valley, we have the cambrian slate of Cairn-clon-Hugh succeeded unconformably by thin beds of red sandstone conglomerate, followed conformably by yellowish grey conglomeratic sandstone, on top of which are beds of impure arenaceous limestone, and dark grey shale, with a few thin beds of dark grey sandstone, altogether about seventy feet in thickness. These are followed by 150 feet thick of yellowish grey quartzose sandstone, succeeded by argillosiliceous limestone alternating with thin beds of dark grey shale, and grey calcareous sandstone, about one hundred feet above which is the carb-slate, lower limestone, calp, and upper limestone in regular succession; the latter being covered by the base of the millstone grit series of Slieveaneerin mountain.

In the lowest calcareous strata noticed in this section, particularly in the lands of Monaduff, in the county of Longford, were discovered numerous species of Cythere, also in abundance Modiola Macadami, and several plants, together with fish spines, not described. and a beautiful specimen of Oracanthus Milleri, perfectly identical with that got in the Bristol limestone, and several specimens of Clenacanthus. The second limestone above the shale, also contains plants, some resembling the Lepidodendrons of the coal series, but of a new species. The upper beds of this limestone contain Orthis crenistria in great abundance, and other fossils of the upper part of the limestone system. The carb-slate which succeeds these strata contains the fenestellæ and the other usual fossils of that division of the limestone, as does also the lower limestone, calp, and upper limestone of Slieveaneerin.

In reference to the lower members of the limestone there is one other locality, which I should wish to notice, chiefly, because my opinion respecting it has been hitherto quite erroneous. I mean a small district of Red sandstone, grey shale, and yellow and red limestone, which occurs at Cultra on the southern shore of Belfast Lough in the Co. of Down. The strata of this locality have previously been considered by me and other geologists to belong to the new red sandstone and magnesian limestone group, but from a careful examination, I have made of its strata, and fossils, within the last year, I am now decidedly of opinion that they are coeval with the valley of Ballinascreen. The section of the strata consists, first of a base of the well-known Greywacke of the county of Down. Its strata are succeeded unconformably by red sandstone passing into conglomerate, alternating with red, and occasionally reddish grey shale—ascending we meet thin beds of compact red limestone interstratified—next fine grained red, and bright yellow calcareous sandstone containing some beds of bright yellow fossiliferous dolomite, containing casts of Cucullea complanata, Cucullea unilateralis, C. Hardingii, C. trapezium, Pullastra antiqua, with Nucula Cypricardia, and some obscure univalves. These fossils are the same as those of Marwood in North Devon.

The precise detail of the strata here, can not be exactly made out, owing to dislocation and a great number of accompanying trap dikes—but as far as he has been enabled to determine, the yellow beds are succeeded by dark grey shale, the thickness of which cannot be ascertained, as it extends scattered under low water. This shale contains in abundance, the scales of Holoptychus Portlockii, two or three varieties of Paleoniscus, with bones, spines, &c. of fishes, undetermined, together with fifteen varieties of Cythere, Modiolo Macadami, Cypricardia socialis, orthoceras regulare, and other shells which are common in the grey shales accompanying the arenaceous limestones in the West of Ireland. This small district, in the lithological character of the shales, in the absence of the limestone, and in the fossils, particularly resembles the Valley of Ballinascreen, and he entertains no doubt they both belonged to the same geological period.

What he has now stated, refers only to that portion of the section, situated to the north of the greywacke slate ridge connected with the peninsula of Ards, in the county of Down. He will now refer to the southern portion of the section, which commences at Castle Espie, on the shore of Strangford Lough, on a grey wacke base. Here the lowest limestone of the carboniferous series is seen. It contains Actinoceras Simonsii, which is probably the same as orthoceras giganteum of Sowerby.

Actinoceras pyramidatus

Producta gigantea, P. latissima.—Orthis cylindrica, Spirifer imbricata ; Athyris glabristria, Syphonophyllia cylindrica, Turbinolia fungites, &c. &c.

These strata are covered by red sandstone at the quarry, and succeeded in Scrabo Hill, by red, grey, and light yellowish grey finegrained sandstone. The sandstone of the Scrabo quarries is much used for building in the surrounding country. At Scrabo, and to the north and east of it the Rock has the same dip and inclination as at Castle Espie, accumulating to the north, till it comes in contact with the greywacke slate of the Ards peninsula, the upper beds coinciding, in character and composition, with those on the north side of the ridge which occurs on the lands of Cultra, on the south shore of Belfast lough, already noticed.

In a western direction the sandstones of Scrabo hill extend to the valley of the river Lagan, whence, in continuation, they are connected with the sandstone and red and grey shales of the southern coast of Belfast lough. Hence, we arrive at the conclusion, that the sandstone of Scrabo hill is above the limestone of Castle Espie, and also that the sandstones and grey shales of Cultra are higher in the series than the same limestone.

It appeared to him that the Castle Espie limestone represents the impure arenaceous limestone of the north coast of Mayo, and of Pettigo in Fermanagh, and that the grey shales, which contain the ichthyolites correspond with the grey shales of Kilcummin Head in Mayo, of the Banagh river in Fermanagh, of Monaduff in Longford, and of Ballinascreen in Londonderry. And when we consider that these shales rest upon calcareous strata, which contain numerous fossils belonging to the upper members of the carboniferous limestone of Ireland, we must, perforce, class the whole series with the carboniferous limestone. Hitherto, fossils of the genus Modiolæ, have been considered to belong to the old red sandstone or Devonian system ; but as he has discovered these fossils in great abundance as high up as the carb-slate, and far above the arenaceous limestone, he must include them among the fossils belonging to the carboniferous system ; and hence, as these fossils have been met with in the red shales, which alternate with red and grey sandstones and limestones near the bottom of the series, and among those strata which he has hitherto considered to belong to the upper portion of the old red system, he thought that he was warranted in including them in the carboniferous series. From what he now said, the red colour of the sandstone beds can no longer be considered as indicative of its age, as he has shown that in several localities the sandstone and conglomerates occur above the arenaceous and ichthyolite beds.

In following this view, it will be difficult in some localities to determine the line of separation between the red sandstone of the carboniferous, and that belonging to another system which lies below ; but in our northern counties a very decided line may be drawn, owing to the unconformability of the two systems. But as he should have occasion to enter upon the subject when treating of the silurian districts of Ireland, he would not then trespass farther on their patience.

Mr. Griffith's geological map was hung up in the room during the reading of his paper, and he made numerous references to it in explaining the district under consideration.

(To be continued.)

THE ANTARCTIC EXPEDITION.

[Second paper : farther Notes.]

In our last *Gazette* we had the satisfaction to give a complete outline of the course and scientific* proceedings of the Antarctic Expedition, which we rejoice to find has mad so strong a public sensation. It was not i our power, nor the power of language, t speak too highly of its importance to science nor of its conduct throughout as honorabl to the naval service and glorious to th country. The harmony which prevaile from first to last in every department, th firmness and resolution of all employed, an the safe return, with so little of sickness o of loss during four years of arduous an dangerous enterprize, reflect such credit o officers and men, that it would indeed b difficult to find words to express our admiration. That speedy promotion and rewar will mark the sense their country entertain of their devotedness is matter of course and we take pleasure in stating that hi Royal Highness Prince Albert took a war and early interest in their progress and discoveries. It is another fine trait in th character of that illustrious personage, an one of the right kind to add to a great an growing popularity of the best and mos enduring description. In bestowing his regards upon these brave navigators, he assumes the true p osition of a British Prince and a portion of their gallant exploits wil thus become a part of his history, as we as of the history of the nation adorned b both.

But our feelings on this subject must no lead us into the vice of common-place declamation. In addition to what appeare in our last week's sheet we have some particulars to communicate to our reader which, we are sure, will be gratifying t their tastes and curiosity.

We mentioned the plummet having struc the ground in a sounding of great depth, bu had not at the moment the exact exten before us. It was at 2677 fathoms ; and b an able contrivance the vessels veered ou more than 4000 fathoms of line, and yet (a in lat. 66½° S.) with all that scope coul find no bottom. In the former case, wher they did, they could not bring the lead u again to indicate the nature of the ground

In the highest latitutes, however, whic they reached, and much within the antarcti circle, their dredging was very productive and they have brought home, in spirits o wine, many specimens of molluscs and othe creatures, shells, &c. &c. which are believe to be rare, if not new in this branch of scientific exploration, and which will be mor welcome now, since Prof. Forbes's Ægea researches (see, fortunately, in this ver same sheet, p. 604, his report, and the results to which it leads,) have, as it were opened a vast novel field of inquiry for th investigation of the nature of our globe.

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* The immense quantity of specimens of every kin deposited with the Admiralty shew at once the ze and diligence exercised throughout the voyage.—*E Lit. Gaz.*

In these desolate regions, where so little could be seen or found on the surface, it was some compensation to be able to divulge even a few secrets from the depths of the sea. Above and around them it was almost as if life were extinct. Animals there were none; and birds were very few. The stormy petrel occasionally flying over their heads was shot; and a new species of white petrel was also obtained. The other ornithological inhabitants of the antarctic, such as gulls, &c. were identical with those of the arctic regions; the same in colours, feathers, and form. Only they were "like angels' visits, few and far between." Of shrimps under the ice there were myriads; but apparently nothing to feed upon them except the worthless finner-whale. For the mess the ocean was a blank. Seals, however, abounded, with skins of long coarse hair. And this was *all*—all except the extraordinary penguin, whose habits seemed to be inpenetrable. This bird was found always on the ice, and at immense distances from land. How it existed appeared to be a mystery. There were thousands and ten thousands of the smaller species; and the lightly fledged young in their first year were often met with. But there were, besides, a patriarchal order, never encountered in more than three at any time, and of an immense size. Their appearance on the summits of icebergs and elsewhere was almost ludicrous; for, with their stately stalk and short legs, they looked, for all the world, like the padres of a religious order. One was weighed at 76lbs. and stood about 4ft. 6. in height. The average weight of this large class was 64lb. And heavy as they were and seemed, their activity in leaping was incredible. In their walk, and glancing over their shoulders as it were with wonder at their strange visitors, they betrayed no fears, and hardly took themselves out of the way. But if an impulse led them to jump up the face of a piece of ice, their flappers came down on each side, and they rose with a spring (considering their form) truly astonishing; as several of the officers estimated such exploits at 10, 12, or 14 feet in perpendicular height.

How these birds contrive to live on icy masses, unable to fly, and not much made for running, is, we repeat, a natural curiosity. There are no insects within many degrees in the antarctic circle where they abide.

Of the dreadful storm mentioned in our last, we have since seen a sketch; which we are assured, is an under-wrought representation of the scene. It is perfectly appalling! The Erebus and Terror are but one wave apart, and the tremendous masses of ice seem as if they must crush a thousand navies. Their escape was indeed miraculous Both rudders lost at nearly the same time, and a dreadful swell driving them up and down, whilst the rolling ice was sometimes under them and sometimes emerging from the water around. It must have been terrific; and it may be observed, that the ocean swell, of which we have spoken, renders the navigation of the south infinitely more perilous than that in the northern sphere, where the waves and currents are comparatively smooth, and the forcing the way through the ice a very different and much safer operation.

Among the memorable objects of the voyage, the volcano we described last week was the most memorable. Its appearance is spoken of by all the officers and crews as of stupendous beauty; and some idea may be framed of its grandeur when we state, that on sailing away from it in a direct course, the vessels could see it distinctly at the distance of 130 miles!

The geology near this phenomenon would be of extreme interest; but it was not attainable; and we have only to console ourselves with the abundance of specimens brought from other parts. Kerguelen's land was rich in this respect, and seems altogether to have been one of the most remarkable spots visited by the expedition. We said it was of volcanic origin; but it is a puzzle to tell exactly what it is. Covered with lava, it imbeds immense fossil trees, some of them 6 or 7 feet in circumference; and numerous fine minerals, quartz in huge masses in basaltic caverns, and other singular remains. It looks as if a land had been submerged, and again thrown up to the surface by volcanic action; the former solid earth and all its products having been restored to view under an igneous power, which destroyed it. Here, however, our countrymen fared well, and were fortunate in their magnetic observations. They could not thin the multitudes of teal which surrounded them and afforded good table cheer, and an excellent species of the brassica tribe, though wild, furnished a vegetable much esteemed after a long voyage. The seed of this cabbage furnished food for many birds, and several specimens were brought from this quarter. Altogether, we understand, about sixty have been sent or brought home, out of which, no doubt, some will augment our fauna. Shooting these was one of the principal amusements of the officers, when not on duty.

From Kerguelen's Land we have on our table, kindly presented to us by Lieutenant Smith, a beautiful specimen of the fossil wood—a black silex, with the woody fibres obviously circling in the interior, and the outer bark, particularly on one side, of a different brown consistency. It is about 5 inches in diameter, and very heavy. From Van Diemen's Land we have also silicified vegetable remains, of singular beauty; and in mentioning the place whence they came, we are happy again to notice the hearty welcome from Sir John Franklin, who made it *a home* to the expedition. But before we leave Kerguelen's Land, we must revert to the scientific operations there, though merely to mention that the "ambulatory" observatories, from which so much information has been acquired, have all been safely relanded in England, and are ready for any other expedition. These houses answered their purposes admirably, as did the instruments generally; and as the Erebus and Terror worked simultaneously, and communicated the results by signal daily,* there cannot be a doubt of the correctness of the experiments and observations. This is of infinite consequence, for it must prevent all question, or cavil, or pretence from other quarters.

The visit to Cape Horn, whither they ran from the Falkland Islands, brought them (as we observed) acquainted with the natives of that wild promontory. They met them on an island, not on the mainland, but a place evidently much frequented by them. They never met more than six or seven of the men together, and found them a fearless and rather robust, active, and well-looking race. They were matchless imitators, and very dexterious thieves; had nothing to offer in barter but small pieces of skins; and were careful to prevent the appearance of their women. These were kept sedulously out of sight; and in one instance, where a party from the ships surprised two of them crouching in a concealed part, they leapt up and ran from them, screeching with terror. The "Jerdan Island" of Captain Weddell's map was near; and upon it, as upon others, rabbits (brought from the Falkland Isles) were put ashore; and as the soil is light and sandy, and covered with grass and brushwood, they will no doubt thrive, and replenish the land. Our kind voyagers also, on other remote shores where vessels will hereafter touch, landed rabbits, poultry, goats, and sheep, of which their future successors may reap the advantage.

The boats of the natives of the Terra del Fuego are curiously built, and their bottom ballasted with clay, on which their cooking is performed. The men, as we have said, are great mimics. One of our officers danced and sung Jim Crow to a set of them; and a Fuegian immediately, to the great entertainment of the ships' crews, copied both dance and song; the first to perfection, and the last so well that it was thought he pronounced every absurd word whilst he jumped Jim Crow.

Among the happy returns, we cannot conclude without mentioning the pretty kitten sent on board the Erebus just before starting, and which we declared to be a "Pole-cat." It has certainly become one, with a thick rich fur, as if the antarctic seasons had agreed with it. There is also a goat shipped at Van Diemen's Land, which has stood all the hardships of three years' *iceing*. They are now animals of considerable interest; and, like their commanders, we are glad to observe they give themselves no airs about it.

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* "Daily" may be a word misapplied through a considerable portion of the time, when the sun was shining over their heads for three weeks together.—*Ed. L. G.*

Of one of these commanders, we have to speak with regret, and the public will join with us in it. After all his toils and exertions, Captain Crozier has had but a sad home to welcome him. The death of two sisters had to be communicated to him a few days ago; and his grief may be hardly imagined.

The vessels are now at Woolwich, being unrigged. In the interior they look almost as fresh as when they sailed; on the outside they are tolerably battered, and in the deep interior it is likely they are much damaged. Had they not been well found they must have perished; but the blessing of Divine Providence was with them,—they were embarked in a noble cause, and nobly have they done their work. Nothing that man could do was left undone; and the result is, we can but repeat, an epoch of vast importance to science,* and a bright page in the history of British enterprise.

The North Pole.—Reports are rife that it is much wished to send out another expedition to the arctic circle, and that the command of it will be offered to Captain Ross, the majority of whose officers would be glad to go with him; though we imagine few of them would be induced to take another spell in the inhospitable and sterile south.

The Kowdy Gum.—When the soil is washed up in the Bay of Islands, New Zealand, large quantities of a gum are discovered in the soil, when and how deposited are unknown. It seems to be pure and resinous, as if the remains of primeval and extinct pine-forests, whose consistency precluded decay, whilst the wood itself perished. What may be its commercial value has not yet been fully ascertained. Experiments will be tried on the samples brought home in the Erebus and Terror.

THE SMOKE NUISANCE.

REPORT OF PARLIAMENTARY COMMITTEE.

It will be interesting to our readers to know that the Select Committee appointed by the House of Commons to examine into this subject, have arrived at the exact conclusions upon the facts as those developed and so ably explained in C. W. Williams' work on Combustion, lately reviewed by us. Amongst other things they state, that—

"In regard to the first of these questions, it appears from the whole of the evidence of scientific and practical men, including master manufacturers, that smoke, which is the result of imperfect combustion, may in all cases be much diminished, if not entirely prevented."

"It appears to be the unanimous opinion of the witnesses conversant with the subject, that imperfect combustion arises from a deficiency of atmospheric air to mix with and act on the inflammable matter at a proper temperature, and under circumstances which must assure its effective operation; that this admission of air, properly regulated, is the great, if not the only, principle of preventing smoke, which is generally applicable; and that all inventions for the prevention of smoke, (except where the smoke has been separated mechanically by an artificial shower of water, produced in a flue constructed for the purpose) are only various applications, in different forms of this general principle: even the flow or jet of steam which has been applied by some persons to prevent smoke in furnaces, being merely a modification of the general principle; as, though steam may modify combustion, air must necessarily flow in with it, otherwise the combustion in the furnace is arrested."

"The evidence before your Committee further shows, that the admission of atmospheric air under proper regulations, into the furnaces, is productive of saving in fuel, by causing the particles of carbon, which would otherwise rise in smoke, and be wasted, to ignite, and thereby to increase the heat in the boiler."

"It appears that the expence of the fitting up whatever apparatus may be required to prevent smoke arising from furnaces is very trifling; and, as some of the witnesses observed, the outlay may be repaid within the year by the diminished consumption of fuel."

"In reference to the last and most important point under the consideration of your Committee, how far it would be expedient to form some legislative enactment to lessen the nuisance from smoke, your Committee, after a careful survey of the evidence before them, seeing that the evils arising from smoke are severely felt in all populous places, and are likely to increase in proportion as wealth and the use of machinery cause a greater extension of furnaces and steam-engines, come without hesitation to the conclusion, that such a legislative enactment should be introduced without delay; and they trust that the perusal of this evidence will ensure cordial aid and cooperation, on the part of proprietors of factories, in accomplishing an object so essential to the comfort and well-being of the surrounding country and population; an expectation which your Committee feel justified in entertaining by the knowledge of the laudible exertions which have lately been made, with much success, by the manufacturers and inhabitants of Leeds and Bradford, in Yorkshire, for the prevention of smoke in those districts."

"Your Committee have received the most gratifying assurances of the confident hope entertained by several of the highest scientific authorities examined by them, that the same black smoke proceeding from fires in private dwellings and all other places, may eventually be entirely prevented, either by the adoption of stoves and grates formed for a perfect combustion of the common bituminous coal, or by the use of coke, or of anthracite; but they are of opinion, that the present state of knowledge on that subject is not such as to justify any legislative interference with these smaller fires."

"In conclusion therefore, your Committee beg leave to recommend that a bill should be brought into parliament at an early period of the next session, to prohibit the production of smoke from furnaces and steam-engines."

THE MAROON WAR OF JAMAICA.

(Concluded.)

[See No. 7.]

Lord Balcarras proceeded immediately to Montego Bay, where he published a violent philippic against the Maroons, telling them, that their town was surrounded by troops, resistance was in vain, and that he had set a price upon the heads of all who did not surrender in four days.

This impolitic proclamation struck terror into the hearts of all the inhabitants, and roused the Maroons from equivocal submission to the most determined resistance. A similar circumstance of an unfortunate nature had just occurred. Colonel Gallimore, who had been sent to negociate with the Maroons, had, during a conference, contemptuously taken from his waistcoat pocket a handful of musket balls, and shaking them in the faces of the chiefs, declared that those were the only *argument* they should have from him. The Maroons shortly after attacked his house, and wreaked a signal vengeance upon his family. General Palmer had given passports to six Maroons, captains, to proceed to the Governor in the capital. Midway these men were seized by the commanding officer of the militia, and, notwithstanding their passports, were ordered into irons by Lord Balcarras. The General expressed himself highly incensed at this breach of faith.

On the 8th of August, Lord Balcarras sent his despatch, commanding the surrender of the Maroons, on pain of setting a price upon their heads. On that day, Colonel Sandford, with one hundred and thirty of the 18th and 20th Light Dragoons, took post about four miles north of the Maroon town. Lord Balcarras, at the head of the 83rd regiment, established himself at Vaughans's field, a mile and a half from the Maroon town, while several thousand militia were in his rear at Kensington estate, to protect the convoys of provisions. The regular troops were in number about fifteen hundred. The Maroon town lies twenty miles south east of Montego Bay, and eighteen miles from Falmouth. The road from Montego Bay for the first nine miles is good; after which it is steep, rugged, and affording facilities of defence against any hostile advance. The same may be said of the last four or five miles of the road from Falmouth. The Maroons, terrified by this military array, on the 11th of August sent their chief and seventeen leading men to offer submission and fealty to Lord Balcarras, who, however, put these men in irons, and sent them on ship-board. Of all things, the Maroons had a horror of being shipped from the island. One of the chiefs committed suicide by ripping open his bowels, and this experiment of surrender taught the Maroons what little clemency they had to expect from Government. Two of the chiefs who had come to the out-posts to parley about pacification, on their return found that the Westmoreland militia had destroyed their town, burnt their provision grounds and ill-used their families. The sword was now drawn, and the scabbard was thrown away. Lord Balcarras had with him one hundred and fifty of the 13th Light Dragoons, dismounted; detachments of the 17th Light Dragoons, under Captain Bacon; and a hundred of the 62nd foot. So far from surrendering, on the 12th the Maroons were so incensed that they attacked two of our detachments on that day, and severely handled them. Lord Balcarras ordered Colonel Sandford to make a forward movement, which, in conjunction with the movements of the 83rd and of the militia, was intended to surround the Maroon town. The Maroons allowed Colonel Sandford to advance into a defile, when they opened a tremendous fire upon him from ambushes on his right and left, and killed him and almost all his men. Not a single Maroon was hurt. The whole plan had been badly contrived.

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* The immense number of observations made by the expedition on terrestrial magnetism, &c. will, of course, be as soon as possible compared with those of the observatories established in communication with it by the several states of Europe; and from the issue very striking conclusions may be anticipated.—*Ed. Lit. Gaz.*

It was now resolved to surround both towns, and to destroy all the provision grounds. A track was cut through the thick brambles and brushwood, the line being guided by the bugles of the 17th Dragoons. After infinite toil in the rainy season, a light field piece was brought up through this track, and both towns were taken possession of. But to the astonishment of Lord Balcarras, they were found abandoned; the Maroons, as might have been expected, had retreated to the cock-pit with all their valuables. Into this cock-pit our troops were made to fire repeated volleys, the echoes of which were succeeded by loud bursts of laughter from the Maroons, who rejoiced at our waste of ammunition. Lord Balcarras now retired to Montego Bay, and left the command of the troops to Colonel Fitch, of the 83rd. More wisdom now guided our measures; but, from unavoidable circumstances, almost all our outposts were surprised, our working parties were destroyed by ambuscades, and our convoys and detachments generally cut to pieces. In but one instance could we ascertain that a single man of the enemy had been killed. Many parleys took place, but the horror of the Maroons at being sent on ship-board prevented any favourable conclusion.

Colonel Fitch employed a strong working party of slaves, supported by several flanking companies of regulars and militia, to cut a line through the brushwood and thorny brambles, that he might communicate with some corps on his right. They had scarcely worked half a mile from head-quarters when the party fell into an ambush; the troops suffered severely, and the Maroons massacred a great number of the negroes. About a mile and a quarter from head-quarters, in another direction, there was an outpost of between thirty and forty men, commanded by Captain Lee, of the 83rd, who had secured himself with palisadoes and a breastwork, but had reported that his post might be commanded by the Maroons from the heights. On the 12th of September, Colonel Fitch, at nine in the morning, went to visit the post in company with the adjutant of the 83rd, and many other officers.

We may judge of the nature of the country from the fact that Colonel Fitch was obliged to make use of a compass, and to set his watch by that of Lieutenant Dixon, of the Artillery, at head-quarters, who was desired to fire a field piece precisely at twelve o'clock. Three hours were thus occupied in traversing one mile and a half. Colonel Fitch found the post untenable, and he proceeded with a small party a few hundred yards in advance, to determine on a better position. Coming to two diverging paths, he hesitated a minute which to take, when a sudden volley from the Maroons in the bush-wood killed, or wounded almost every man of the party. Colonel Jackson was unhurt, but seeing Colonel Fitch sitting, desperately wounded, on the stump of a tree, and hearing some Maroons cock their muskets, he endeavoured to make him lie down; but even in this hurried effort, another ball killed him on the spot. In the return of ninety-three killed and wounded, we find seventy killed and only twenty-three wounded; so accurate was their fire.

Colonel Walpole, of the 13th dragoons, was now appointed Commander-in-chief, with the rank of Major-general. He declared that the island would be lost, if the troops suffered another defeat. While maturing his plans, an attack was made upon a strong out post, commanded by Major Godley and Captain White, of the 83rd. One of the sentries had declared that he saw a Maroon passing in the dark. The men were turned out and formed into two parties, and advanced at day-break. No vestige of an enemy appearing, they returned, and Major Godley entering his hut, ordered his negro boy to bring him his coffee. At the instant the boy was shot through the head, and a volley from the Maroons did great execution amongst our men. The post was bravely defended, but at last abandoned with considerable loss.

General Walpole resolved to act on the defensive during the rainy season. He trained his men to the light infantry manœuvres, and bush-fighting; he selected the best rifle-shots, harassed the enemy by false alarms, and made feint attacks to draw off their attention, whilst he cleared the country around him of the brush-wood and high grass. At length, making a feint attack at a distance, he pushed a strong body of troops, with a howitzer and field-piece, up a hill, and at day-break began to pour shells and grape shot into the cock-pit. The Maroons, terrified at this novel mode of attack, precipitately fled to the next cock-pit, from which they were driven by similar means. They were thus driven from post to post, and cut off from their supplies of water. The measles broke out amongst them, and they became greatly distressed. Still, however, they were able to send out numerous skirmishing parties; and, notwithstanding we were often able to attack them with greatly superior numbers, in no one instance could we obtain complete success.

Thus were parties situated, when Lord Balcarras, contrary to the advice of General Walpole, resolved to send to Cuba for a pack of the hounds used in that island to chace outlaws, and runaway negroes. These dogs, coming up with a fugitive, merely growl at him, till he stops, when they continue barking till the chasseurs advance and secure their prize. Each chasseur can only hunt with two dogs; they are never unmuzzled but for attack, and are always accompanied by one or two small dogs of excellent scent, called finders. The larger animal is the size of a very large hound, but with the nose more pointed. His skin is much harder than that of most dogs, and so must be the whole structure, as the severe beatings they undergo in training would kill any other dog.

The chasseur's only weapon is longer than a dragoon's sword, and twice as thick, something like a flat iron bar, of which about eighteen inches at the lower end are as sharp as a razor. The activity of these chasseurs no negro can elude; and such is their temperance, that with a few ounces of salt they can support themselves for months on the vegetable and farinacious food of the woods. They drink nothing but the water supplied by the wild pine, by the black and grape withes, and the roots of the cotton tree. Their greatest privation is that of the cigar, which they must not use in the woods, where the scent would betray them. The dress of a chasseur is a check shirt, opened at the neck, and displaying a crucifix; a wide pair of check trowsers, a straw hat, eight inches in the brim; his sword-belt and his cotton ropes for his dogs. In the woods he kills the wild hogs, and having skinned the thighs and hocks, he thrusts his foot into the raw hides, and with his knife trims it and makes it a tight boot, to protect his legs from the intricacies of thorns, and brushwood, which he has to penetrate. Forty of these chasseurs were reviewed by General Walpole, at Seven Rivers, and each of them had two hounds besides the finder. The General imposed upon them the necessity of carrying muskets, which, however, they resolved to throw away as soon as a fight commenced; and, secondly, he would not allow them to go out in chase, but obliged them to keep in the rear till occasion might require their aid. How far these restraints and alterations of their accustomed mode of fighting might have destroyed their efficiency, was never proved. But opinion, in war, as in many other things, is very powerful. The Maroons, who had braved our bayonets, our cavalry and cannon, and had overcome the terror which they had entertained of our name, now succumbed beneath the fear of this species of force. General Walpole took advantage of their terror to negociate, and a treaty was signed, to one article of which General Walpole *swore* "that the Maroons should not be sent off the island." No sooner, however, had this handful of brave men, less than five hundred, surrendered, than they were shipped to Nova Scotia by the governor, thence to Sierra Leone. It must be observed, that this memorable conflict took place with only *one* (the Trelawny) tribe of Maroons. The House of Assembly voted seven hundred guineas for a sword to Lord Balcarras, which he accepted; and also five hundred guineas for a sword for General Walpole, which he contemptuously refused, delaring that the treaty had been broken, and insisted that the Maroons should, in justice, have their arms restored, and be placed in the same position as they were before the treaty which he signed with them, and which was now disgracefully broken; and he offered to subdue them in another campaign by force of arms. This the House of Assembly refused, and the General expressed himself with such indignation and contempt at their perfidy, that the House expunged his letter from their journals.

Natural History.

THE EATABLE BIRDS' NESTS.

Sir G. Staunton has given the following description of the esculent swallow and its nest in his account of the Embassy to China. "In the Cass," says he, "a small island near Sumatra, we found two caverns running horizontally into the side of the rock, and in these were a number of those birds' nests so much prized by the Chinese epicures. They seem to be composed of fine filaments, cemented together by a transparent, viscous matter, not unlike what is left by the foam of the sea upon stones alternately covered by the tide, or those gelatinous animal substances found floating on every coast. The nests adhere to each other and to the sides of the cavern, mostly in horizontal rows, without any break or interruption, and at different depths from fifty to five hundred feet. The birds that build these nests are small, grey swallows, with bellies of a dirty white. They were flying about in considerable numbers, but were so small, and their flight was so quick, that they escaped the shot fired at them.

The same sort of nests are said to be also found in deep caverns at the foot of the highest mountains in the middle of Java, at a distance from the sea; from which source it is thought that the birds derive no materials either for their food or the construction of their nests, as it does not appear probable they should fly in search of either over the intermediate mountains, which are very high, or against the boisterous winds prevailing thereabouts. They feed on insects which they find hovering over stagnated pools between the mountains, and for the catching of which their wide opening beaks are particularly adapted. They prepare their nests from the best remnants of their food. Their greatest enemy is the kite, which often intercepts them in their passage to and from the caverns, which are generally surrounded with rocks of grey limestone or white marble. The colour and value of the nests depend on the quantity and quality of the insects caught, and perhaps also on the situation where they are built. Their value is chiefly ascertained by the uniform fineness and delicacy of their texture; those that are white and transparent being most esteemed, and fetching often, in China, their weight in silver.

These nests are a considerable object of traffic among the Javanese, many of whom are employed in it from their infancy. The birds, after having spent nearly two months in preparing their nests, lay, each, two eggs, which are hatched in about fifteen days. When the young birds become fledged, it is thought the proper time to seize upon their nests, which is done regularly three times a year, and is effected by means of ladders of bamboo and reeds, by which the people descend into the caverns; but when these are very deep, rope ladders are preferred. This operation is attended with much danger, and several perish in the attempt. The inhabitants of
the mountains generally employed in th
business, always begin by sacrificing
buffalo, which custom is observed by t
Javanese on the eve of every extraordina
enterprise. They also pronounce son
prayers, anoint themselves with swee
scented oil, and smoke the entrance of t
cavern with gum benjamin. Near some
the caverns a titular goddess is worshippe
whose priest burns incense, and lays h
protecting hand on every person preparii
to descend. A flambeau is carefully pr
pared at the same time, with a gum whic
exudes from a tree growing in the vicinit
and which is not easily extinguished b
fixed air or subterraneous vapours.

The commercial history of these singul
nests is much better understood than the
composition, in consequence of their r
puted virtue as a restorative. The be
account of them which we have met wi
is given by Mr. Crawford, in his "India
Archipelago." "The best nests," he say
"are those obtained in deep, damp cave
and such as are taken before the birds ha
laid their eggs. The coarsest are tho
obtained after the young have been fledge
The finest nests are the whitest; that
those taken before the nest has been re
dered impure by the food and fæces
the young birds. The best are white, a
the inferior dark-coloured, streaked wi
blood, or intermixed with feathers. It m
be remarked, however, that some of t
natives describe the purer nests as t
dwelling of the cock bird, and always
designate them in commerce. Birds' ne
are collected twice a-year; and, if regula
collected, and no unusual injury be offer
to the caverns, will produce very equal
the quantity being very little, if at all, i
proved by the cave's being left unmolest
for a year or two. Some of the caver
are extremely difficult of access, and t
nests can only be collected by persons a
customed from their youth to the offi
The most remarkable and productive ca
in Java, of which I superintended half
the collection for several years, are th
of Karang-bolang, in the province of Bagl
on the south coast of the island. Th
the caves are only to be approached b
perpendicular descent of many hund
feet, by ladders of bamboo and rattan, o
a sea rolling violently against the roc
When the mouth of the cavern is attain
the perilous office of taking the nests m
often be performed by torch-light, by
netrating into recesses of the rock, wh
the slightest trip would be instantly fa
to the adventurers, who see nothing bel
them but the turbulent surf making its w
into the chasms of the rock. The o
preparation which the birds' nests under
is that of simple drying, without direct
posure to the sun; after which they
packed in small boxes, usually of a pic
They are assorted for the Chinese mar

into three kinds, according to their qualities, distinguished into first or best, second and third qualities. Caverns that are regularly managed will afford, in 100 parts, $53\frac{3}{10}$ parts of those of the first quality; 35 parts of those of the second; $11\frac{7}{10}$ parts of those of the third. The common prices for birds' nests at Canton are, for the first sort, 3500 Spanish dollars the picul, or £5 18*s.* 1½*d.* per pound; for the second, 2,800 Spanish dollars per picul; and for the third, no more than 1,600 Spanish dollars. In the Chinese markets a still nicer classification of the edible nests is oftener made than in the island. The whole are frequently divided into three great classes, under the commercial appellations of Paskat, Chikat, and Tung-tung, each of which, according to quality, is subdivided into three inferior orders; and we have, consequently, prices varying from 1,200 Spanish dollars per picul, to 4,200. These last, therefore, are more valuable than their weight in silver. Of the quantity of birds' nests exported from the Indian islands, although we cannot state the exact amount, we have data for hazarding some probable conjectures respecting it. From Java there are exported about 200 piculs, or 27,000 pounds, the greater part of which is of the first quality. The greatest quantity is from the Suluk Archipelagoes, and consists of 530 piculs. From Macassar there are sent about 30 piculs of the fine kind. These data will enable us to offer some conjectures respecting the whole quantity; for the edible swallows' nests being universally and almost equally diffused from Junk, Ceylon, to New Guinea, and the whole produce going to one market, and only by one conveyance, the junks, it is probable that the average quantity taken by each vessel is not less than the sum taken from the ports just mentioned. Taking the quantity sent from Batavia as the estimate, we know that this is conveyed by 5,300 tons of shipping, and, therefore, the whole quantity will be 1818 piculs, or 242,400 pounds, as the whole quantity of Chinese shipping is 30,000 tons. In the Archipelago, at the prices already quoted, this property is worth 1,263,519 Spanish dollars, or £284,290. The value of this immense property to the country which produces it, rests upon the capricious wants of a single people. From its nature it necessarily follows, that it is claimed as the exclusive property of the sovereign, and every where forms a valuable branch of his income, or of the revenue of the state. This value, however, is, of course, not equal; and depends upon the situation and circumstances connected with the caverns in which the nests are found. Being often in remote and sequestered situations, in a country so lawless, a property so valuable and exposed, is subject to the perpetual depredations of freebooters; and it not unfrequently happens that an attack upon them is the principal object of the warfare committed by one petty state against another. In such situations, the expense of affording them protection is so heavy, that they are necessarily of little value. In situations where the caverns are difficult of access to strangers, and where there reigns enough of order and tranquillity to secure them from internal depredations, and to admit of the nests being obtained without other expense than the simple labour of collecting them, the value of the property is very great. The caverns of Karang-Bolang in Java, are of this description. These annually afford 6810 lbs. of nests, which are worth, at the Batavia prices, 3,200, 2,530, and 1,200 Spanish dollars the picul—for the respective kinds, nearly 139,000 Spanish dollars; and the whole expense of collecting, curing and packing, amounts to no more than 11 per cent. on this amount. The price of birds' nests is, of course, a monopoly price—the quantity produced being by nature limited, and incapable of being augmented. The value of the labour expended in bringing birds' nests to market is but a trifling portion of their price, which consists of the highest price which the luxurious Chinese will afford to pay for them, and which is a tax paid by that nation to the inhabitants of the Indian islands. There is, perhaps, no production upon which human industry is exerted, of which the cost of production bears so small a proportion to the market price."

THE LION AND GIRAFFE.

THE sketch in the text was borrowed from an account given me by old Teysho, a Bechuana Chief, of the mode taken by the lion to surprise the Giraffe or Camelopard, when that magnificent animal comes to drink at the fountains of the wilderness.—*Thomas Pringle.*

Wouldst thou view the lion's den?
Search afar from haunts of men,
Where the reed-encircled rill
Oozes from the rocky hill,
By its verdure far descried
Mid the desert brown and wide.

Close beside the sedgy brim,
Couchant lurks the lion grim;
Watching till the close of day
Brings the death-devoted prey.
Heedless, at the ambush'd brink
The tall Giraffe stoops down to drink;
Upon him straight the savage springs
With cruel joy. The desert rings
With clanging sound of desperate strife,
The prey is strong, and strives for life,
Plunging oft with frantic bound
To shake the tyrant to the ground.
He shrieks, he rushes through the waste,
With glaring eye and headlong haste.
In vain! the spoiler on his prize
Rides proudly—tearing as he flies.

For life the victim's utmost speed
Is mustered in this hour of need;
For life—for life—his giant might
He strains, and pours his soul in flight;
And, mad with terror, thirst and pain,
Spurns with wild hoof the thundering plain.
'Tis vain; the thirsty sands are drinking
His streaming blood—his strength is sinking;
The victor's fangs are in his veins—
His flanks are streaked with sanguine stains;
His panting breast in foam and gore
Is bathed—he reels—his race is o'er;
He falls—and, with convulsive throe,
Resigns his breast to the ravening foe!
And, lo! ere quivering life has fled,
The vultures,[*] wheeling overhead,
Swoop down, to watch, in gaunt array,
Till the gorged tyrant quits his prey.

The Giraffe or Camelopard, the tallest, and in many other respects, one of the most remarkable of quadrupeds, is entirely peculiar to the African continent. It measures from fifteen to twenty feet in height, including the neck. It is a timid and gentle animal, browsing habitually on the foliage of trees, especially on those of the Acacia and Mimosa tribes. Its gait or mode of progression is thus described by Mr. Lichtenstein:—"We had hardly travelled an hour when the Hottentots called our attention to some object on a hill not far off on the left hand, which seemed to move. The head of something appeared almost immediately after, feeding on the other side of the hill, and it was concluded that it must be that of a very large animal. This was confirmed, when, after going scarcely a hundred steps further, two tall, swan-necked Giraffes stood almost directly before us. Our transports were indescribable, particularly as the creatures themselves did not perceive us, and therefore gave us full time to examine them, and to prepare for an earnest and serious chase. Our horses were saddled, and our guns loaded in an instant, when the chase commenced. Since all the wild animals of Africa run against the wind, so that we were pretty well assured which way the course of these objects of our ardent wishes would be directed, Vischer, as the most experienced hunter, separated himself from us, and by a circuit took the animals in front, that he might stop their way, while I was to attack them in the rear. I had almost got within shot of them, when they perceived me, and began to fly in the direction we expected. But their flight was, beyond all idea, so extraordinary, that between laughter, astonishment, and delight, I almost forgot my designs upon the harmless creatures' lives. From the extravagant disproportion between the height of the fore to that of the hinder parts, and of the height to the length of the animal, great obstacles are presented to its moving with any degree of swiftness. The Giraffe can only gallop, as I can affirm from my own experience, having seen between forty and fifty at different times, both in their slow and hasty movements; for they only stop when they are feeding quietly. But this gallop is so heavy and unwieldy, and seems performed with so much labour, that in a distance of more than six hundred paces, comparing the ground cleared, with the size of the animal, and of the surrounding objects, it might almost be said that a man goes faster on foot. The heaviness of the movement is only compensated by the length of the steps, each one of which clears, on a moderate computation, from twelve to sixteen feet. A tolerably good horse overtakes the Giraffe without difficulty, especially over rising ground."

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[*] There are several species of the vulture in South Africa, some of which, such as the black vulture of the Winterberg, are of a very large size. One of the most common is the *Vultur percnopterus.* These fowls divide with the Hyænas the office of carrion-scavengers; and the promptitude with which they discover and devour every dead carcass is truly surprising. They also instinctively follow any band of hunters, or party of men travelling, especially in solitary places; wheeling in circles high in the air, ready to pounce down on any game that may be shot and not instantly secured; or on the carcase of any ox or other animal that may perish on the road. I have seen a large ox so dexterously handled by a flock of these voracious fowls, that in the course of three or four hours, not a morsel, except the bones and the skin (which they had contrived to disincarnate entire) remained for the Hyænas.

ENCOUNTER WITH A LION.

Lucas Van Vuur (or Van Vuuren) was a tall, dark, muscular man, in height about six feet two, with a bushy, coal-black beard, and an eye like an eagle's. He was for some time one of our nearest neighbours at Glen-Lynden, where he occupied the farm of Lyndoch Clough, the property of Mrs. Colonel Graham. He usually carried a huge elephant gun, as long and unwieldy as himself; but he had left it at home on the following occasion, when he had most special need of it. Lucas was riding across the open plains near the Little Fish River, one morning about day-break, when observing a lion at a distance, he endeavoured to avoid him by making a circuit. There were thousands of spring-boks scattered over the extensive flats; but the lion, from the open nature of the country, had probably been unsuccessful in hunting. Lucas soon perceived at least that he was not disposed to let *him* pass without further parlance, and that he was rapidly approaching to the encounter; and being without his *roer*, and consequently little inclined to any closer acquaintance, he turned off at right angles, laid the sjambok freely to his horse's flank, and galloped for life. But it was too late. The horse was fagged, and bore a heavy man on his back; the lion was fresh, and furious with hunger, and came down upon him like a thunder-bolt. In a few minutes he overtook Lucas, and springing up behind, brought horse and man in an instant to the ground. Luckily the boor was unhurt, and the lion was too eager in worrying the horse, to pay any immediate attention to the rider. Hardly knowing himself how he escaped, he contrived to scramble out of the fray, and made a clean pair of heels of it till he reached the nearest house. Lucas, when he gave me the details of this adventure, made no observation on it as being in any way remarkable, except in the circumstance of the lion's audacity in pursuing a Christian man (Christen mensch) without provocation in open day. But what chiefly vexed him in the affair was the loss of the *saddle*. He returned next day with a party of friends, to search for it, and take vengeance on his feline foe, but both the lion and saddle had disappeared, and nothing could be found but the horse's clean picked bones. Lucas said he could excuse the *schelm* for killing the horse, as he had allowed himself to get away, but the felonious abstraction of the saddle, (for which as he gravely observed, the lion could have no possible use) raised his spleen mightily, and called down a shower of curses whenever he told the story of this hairbreadth escape. *Pringle's residence in Africa.*

Miscellenea.

Effect of musketry in battle.—About a century ago, a British general, named, I think, Gray, asserted in a military treatise, that only one musket shot out of four hundred, took fatal effect in battle. This at first view seems absolutely incredible, but a regular investigation shews that he calculated judiciously: a battle is accounted very bloody, where an army suffers a loss of one fourth. At Vittoria, when Wellington, according to Napier, had 100,000 he lost 6000, which was only about one seventeenth; and the French with 120,000 lost no more, which was but one twentieth. Ligny, though not much spoken of, was perhaps the most sanguinary battle in modern times, for Blucher lost one-fourth of his force in the field; and so deadly was the mutual exasperation, that no mention is made of prisoners! Bonaparte, who could be hardly said to have gained a victory, since Blucher's main object was retreat, lost at least one-fifth at Waterloo, which is always classed as unusually severe; Wellington, if my memory serve right, lost about one-fifth of the army under his immediate command. The French loss cannot be fairly mentioned here, for when an army flies in confusion, it is little superior to a panic-struck mob, and the carnage in the pursuit, added to that in the battle itself, must be immense. Suppose now two hostile armies of 12000 muskets respectively, besides the officers or non-commissioned officers, and some cavalry and artillery men; and that one is defeated after a contest of six or seven hours, with the heavy loss of 3000, we will suppose that the victorious side fires only thirty rounds, which low average is given to allow for the killed or disabled early, or in course of the battle. That would amout to 360,000 shots, and we are to recollect that *loss* includes wounded and missing; so that the killed are seldom more than one-fourth, but we shall here set them down at 1000, which would be nearly a third. That would come very close to the General's calculations, but we must keep in mind that battles are not fought without cavalry and artillery, and that they had a large share in killing the 1000. Thus we find that, with all our improvements, the old General's estimate holds good to the present day, and is rather an underrating than an exaggeration. Why so small a proportion of musket shots *tell* effectively in battle, would be both a curious and useful subject for investigation.

Fusil in the united service Magazine.

The stuttering soldier.—During the American war, when draughts were made from the militia to recruit the continental army, a certain captain gave liberty to the men who were draughted from his company, to make their objections, if they had any, against going into the service. Accordingly, one of them who had an impediment in his speech, came up to the captain, and made his bow. "What is your objection"? said the captain, "I c–a–ant go," answered the man, "because I st–st–st–stutter. "Stutter," said the captain, "you dont go there to talk, but to fight." "Aye, but they'll put me upon the g–g–guard, and a man may go ha–ha–half a mile before I can say wh–wh–who goes there."? "Oh, that is no objection, for they will place some other sentry with you, and he can challenge and you can fire." "Well, b–b–but I may be ta–ta–taken and ran through the bo–bo–body, before I can cry qu–qu–quarter." The last plea prevailed, and the captain, with a hearty laugh, dismissed him.

Exports of Manufactures and Raw Material.—The decrease of our exports in manufactured goods on the one hand, and the increase which, on the other, has of late years taken place in the amount of raw materials sent out of the country to be manufactured in other lands, may be taken as one way of accounting for the distress and suffering which exists throughout the country, and more particularly in the manufacturing districts. It appears, from "Burn's Commercial Glance," that the amount of cotton yarn exported from this country in 1841 was 115,665,488lbs, and in 1842, 136,537,162lbs, showing a progressive increase in the exports of raw material. In 1841 the total quantity of printed and dyed calicoes exported from England, 278,784,275 yards, and in 1842 236,012,641; showing the decrease in the manufactured exports. The exports of cambrics show a falling off of full 50 per cent. upon a comparison between the same two years.

Ministerial ignorance.—One of Cromwell's followers, who filled the important office of an Irish justice, having occasion to write the word *usage*, contrived to spell it without using a single letter of the original word; his orthography was, *yow zitch*, when some one remarked on the mistakes, he answered, that "nobody conld spell with pens made from Irish geese."

Generosity of Marshall Turenne. The deputies of a metropolis of Germany once offered the great Turenne 100,000 crowns not to pass with his army through their city. "Gentlemen" said he, "I cannot in conscience accept your money, as I had no intention to pass that way."

A Portuguese Princess with a Long name.—On the 10th instant, at five o'clock, the baptism of her Serene Highness the Princess Donna Maria Anna Fernanda, Leopolinda Michaella Raffaella Gabriella Carlota Antonia Julia Victoria Praxedes Francisca de Assiz Gonzaga de Braganza de Bourbon Saxe Coburg Gotha took place at the chapel royal at the Necessidades in great pomp; the secretaries of state, diplomatic corps, &c. being present during the ceremony at the baptismal font, at which the Baron Marshal the Austrian Ambassador officiated by proxy as godfather for his Imperial master, and her Royal Highness Donna Isabel Maria (the once Regent of Portugal) as godmother for her Imperial Majesty the empress of Austria, the Portuguese ships of war, decorated in their variegated flags, and the British ships and French brigs of war, with ensigns at their mast head, fired a royal salute. A select dinner party at the palace closed the festivities of the day.

The following beautiful and expressive Latin prayer is said to have been written by Mary Queen of Scots, during her captivity:—

O Domine Deus! speravi in te;
O care mi Jesu! nunc libera me.
In dura catene, in misera pœna, desidero te.
Languendo, gemendo et genuflectendo
Imploro, adoro ut liberes me.

VALUE OF FARMING PROPERTY IN IRELAND.

By the voluminous compilation of the Census Commissioners, it appears that the estimated value of the rural stock of the entire kingdom is £20,671,068, and it is thus distributed in provinces:—

Value of Live Stock in Ireland.

Leinster	£5,787,665
Munster	6,243,438
Ulster	5,321,752
Connaught	3,318,213
Total,	£20,671,668

AUTUMN.

Let, then, the young go out in these hours, under the descending sun of the year, into the fields of nature. Their hearts are now ardent with hope—with the hopes of fame, of honor, or of happiness; and in the long perspective which is before them, their imagination creates a world where all may be enjoyed. Let the scenes which they now may witness, moderate, but not extinguish their ambition:—while they see the yearly desolation of nature, let them see it as the emblem of mortal hopes—while they feel the disproportion between the powers they possess, and the time they are to be employed, let them carry their ambitious eye beyond the world;—and while, in these sacred solitudes, a voice in their own bosoms corresponds to the voice of decaying nature, let them take that high decision which becomes those who feel themselves the inhabitants of a greater world, and who look to a being incapable of decay.

Let the busy and the active go out, and pause for a time amid the scenes which surround them, and learn the high lesson which Nature teaches in the hours of its fall. They are now ardent with all the desires of mortality; and fame, and interest, and pleasure, are displaying to them their shadowy promises; and in the vulgar race of life, many weak, and many worthless passions are too naturally engendered. Let them withdraw themselves for a time from the agitations of the world;—let them mark the desolation of summer, and listen to the winds of winter, which begin to murmur above their heads. It is a scene which, with all its power, has yet no reproach; it tells them that such is also the fate to which they must come; that the pulse of passion must one day beat low; that the illusions of time must pass; and "that the spirit must return to Him who gave it." It reminds them, with gentle voice, of that innocence in which life was begun, and for which no prosperity of vice can make any compensation; and that angel, who is one day to stand upon the earth, and to "swear that time shall be no more," seems now to whisper to them, amid the hollow winds of the year, what manner of men they ought to be who must meet that decisive hour.

There is yet another description among those who hear me; there is an eventide in human life—a season when the eye becomes dim, and the strength decays, and when the winter of age begins to shed upon the human head its prophetic snow. It is the season of life to which the present is most analagous; and much it becomes, and much it would profit you, my elder brethren, to mark the instruction which the season brings. The spring and the summer of your days are gone, and, with them, not only the joys they knew, but many of the friends who gave them. You have entered upon the autumn of your being; and whatever may have been the profusion of your spring, or the warm intemperance of your summer, there is yet a season of stillness and of solitude which the beneficence of Heaven affords you, in which you may meditate upon the past and the future, and prepare yourselves for the mighty change which you are soon to undergo.

If it be thus, my elder brethren, and you have the wisdom to use the decaying season of nature, it brings with it consolations more valuable than all the enjoyments of former days. In the long retrospect of your journey, you have seen every day the shades of the evening fall, and every year the clouds of winter gather. But you have seen also every succeeding day, the morning rise in its brightness, and in every succeeding year the spring return to renovate the winter of nature. It is now you may understand the magnificent language of heaven; it mingles its voice with that of revelation; it summons you, in these hours, when the leaves fall, and the winter is gathering, to that evening study which the mercy of Heaven has provided in the book of salvation. And while the shadowy valley opens which leadeth to the abode of death, it speaks of that hand which can comfort and can save, and which can conduct to those "green pastures, and those still waters" where there is an eternal spring for the children of God.—*Alison.*

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⁂ The great success which has attended the First, Second, and Third Mother's Catechism of the Rev. Dr. Blair, has induced the Publishers to further extend the utility of this system, by a continued Series on the most important subjects, under the superintendence and editorship of the Rev. T. Wilson. The want of such a series, skilfully executed, has long been felt.

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do. old Principes ..	32	6
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einer mehrjährigen
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Twelfth Month (December), 1843.

THE

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AND SELECT FAMILY VISITOR,

FOR THE DISSEMINATION OF USEFUL KNOWLEDGE.

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In case of irregularity in the delivery of the copy, subscribers are requested to notify the same to the Proprietor, as such omissions will sometimes occur, notwithstanding the utmost care.

TO ADVERTISERS.

It must be obvious to all, that it is an excellent medium for an Advertisement, to have it in a publication which will be perused by a whole family, and generally by many other individuals, *for an entire month.*

☞ Political and sectarian articles are excluded

⁂ Books for review may be left at Hayden's Parcel Office, Warwick-square, London, directed to Machen and Co. Booksellers, Dublin, for J. ABELL, Proprietor and Editor of the Dublin Literary Journal.

TO CORRESPONDENTS.

We find that in No. 6, in the review of "Geology and Revelation in perfect harmony," a mistake occurred, probably in the copying. The introduction of Dr. Pye Smith's name should be thus expressed: "On the other hand, the worst argument to bring back a doubting geologist to an orthodox opinion of revelation, is such as that lately used *against* a work of Dr. Pye Smith, which was written to prove the *harmony* of Scripture and Geology, and which some alarmed opponents declared to be "the most infamous that has appeared since "Paine's Age of Reason."

The Essays on the Geology of Ireland with which we have been favored by authority, were *never before published.* There were only *slight notices* of the subject at the meetings of the British Association. We have reason to know that they have excited much interest.

Reviews.

History of the Conquest of Mexico, with a preliminary view of the ancient Mexican civilization, and the Life of the Conqueror, Fernando Cortez. By William H. Prescott. In 3 Vols. London: Bentley, New Burlington-st.

The publication of these very interesting volumes fills up a chasm in Spanish American history which all general readers must have perceived to exist. The advantages which the author possessed were superior to those which fell to the lot of any other individual, and which he has used in the production of an elaborate, classical, and elegantly written work, which must ever live in the chronicles of enduring fame. Since the days of Solis and Robertson, many Spanish scholars have turned their attention to the collecting authentic information on this interesting subject, with this advantage, that much greater facilities have been latterly afforded both by the government and individuals for the examination of public and private libraries.

The scholar who led the way in these researches was Don Juan Baptista Munoz, the celebrated historio-grapher of the Indies, who, by a royal edict, was allowed free access to the national archives, and to all libraries—public, private, and monastic—in the kingdom and its colonies. The result of his long labours was a vast body of materials, of which, unhappily, he did not live to reap the benefit himself. His manuscripts were, after his death, deposited in the archives of the Royal Academy of History at Madrid; and that collection was subsequently augmented by the manuscripts of Don Vargas Ponce, president of the academy, obtained, like those of Munoz, from different quarters, but especially from the archives of the Indies at Seville. The magnificent collections which were placed at the disposal of the author, furnished him with about 8000 folio pages of unpublished documents, to which were added additional materials obtained from Mexico itself, and the archives and the family of Cortez himself, who is now represented by the duke of Monteleone. Besides the history of the Mexican empire, the work contains much information now made public, respecting the manners, customs, and progress of civilization of the ancient Mexicans. The summary of the general objects of the history is best described in the author's own words:

> "Of all that extensive empire which once acknowledged the authority of Spain in the New World, no portion, for interest and importance, can be compared with Mexico; and this equally, whether we consider the variety of its soil and climate; the inexhaustible stores of its mineral wealth; its scenery—grand and picturesque beyond example: the character of its ancient inhabitants, not only far surpassing in intelligence that of the other North American races, but reminding us, by their monuments, of the premature civilization of Egypt and Hindostan; and lastly, the peculiar circumstances of its conquests and adventures, as romantic as any legend devised by Norman or Italian bard of chivalry. It is the purpose of the present narrative to exhibit the history of this conquest, and that of the remarkable man by whom it was achieved."

Several nations, such as the Toltees, the Chichemees, the Aztees or Mexicans, and the Acolhuans, came from the northerly direction, and settled in the fertile regions of the south, where the productions of the valleys and extensive table lands tempted them to establish themselves.

> "The Mexicans, with whom our history is principally concerned, came also, as we have seen, from the remote regions of the north, the populous hive of nations in the New World, as it has been in the Old. They arrived on the borders of Anahuac towards the beginning of the thirteenth century, some time after the occupation of the land by the kindred races. For a long time they did not establish themselves in any permanent residence; but continued shifting their quarters to different parts of the Mexican valley, enduring all the casualties and hardships of a migratory life. On one occasion, they were enslaved by a more powerful tribe; but their ferocity soon made them formidable to their masters. After a series of wanderings and adventures, which need not shrink from comparison with the most extravagant legends of the heroic ages of antiquity, they at length halted on the S.W. borders of the principal lakes in the year 1325. They there beheld, perched on the stem of a prickly pear, which shot out from the crevice of a rock that was washed by the waves, a royal eagle of extraordinary size and beauty, with a serpent in his talons, and his broad wings opened to the rising sun. They hailed the auspicious omen, announced by an oracle, as indicating the site of their future city, and laid its foundation by sinking piles into the shallows; for the low marks were half buried under water. On these they erected their light fabrics of reeds and rushes; and sought a precarious subsistence from fishing, and from the wild fowl which frequented the waters, as well as from the cultivation of such simple vegetables as they could raise on their floating gardens. The place was called Tenochtillan, in token of its miraculous origin, though only known to Europeans by its other name of Mexico, derived from their war god Mexitli. The legend of its foundation is still farther commemmorated by the device of the eagle and the cactus, which form the arms of the modern Mexican republic. Such were the humble beginnings of the Venice of the western world."

When the Spaniards got possession of these populous territories, they found that the history of the country was recorded in a series of writing by means of pictures, the explanation of which was handed down by oral tradition. By an inexcusable act of barbarian vandalism, the Spaniards, and particularly the clergy, commenced a crusade against these precious documents, and every where destroyed the authentic histories of this polished empire.

> " Their manuscripts were made of different materials, of cotton cloth or skins nicely prepared; of a composition of silk and gum; but, for the most part, of a fine fabric from the leaves of the aloe, *agave Americana*, called by the natives, *maguey*, which grows luxuriantly over the table lands of Mexico. A sort of paper was made from it, resembling somewhat the Egyptian *papyrus*, which, when properly dressed and polished, is said to have been more soft and beautiful than parchment. Some of the specimens still existing exhibit their original freshness, and the paintings on them retain their brilliancy of colors. They were sometimes done up into rolls, but more frequently into volumes of moderate size, in which the paper was shut up, like a folding screen, with a leaf or tablet of wood at each extremity, that gave the whole, when closed, the appearance of a book. The length of the strips was determined by convenience, and as the pages might be read and referred to separately, this form had obvious advantages over the rolls of the ancients. At the time of the arrival of the Spaniards, great quantities of these manuscripts were treasured up in the country. Numerous persons were employed in painting, and the dexterity of their operations excited the astonishment of the conquerors. Unfortunately, this was mingled with other and unworthy feelings. The strange, unknown characters inscribed on them, excited suspicion. They were looked on as magic scrolls; and were regarded in the same light with the idols and temples, as the symbols of a pestilent superstition, that must be extirpated. The first archbishop of Mexico, Don Juan de Tumarraga, a name that should be as immortal as that of Omar, collected these paintings from every quarter, especially from Tezcuco, the most cultivated capital in Anahuac, and the great depository of the national archives. He then caused them to be piled up in a "mountain heap," as it is called by the Spanish writers themselves, in the market place of Tlatelolco, and reduced them all to ashes!!! His greater countryman, archbishop Ximenes, had celebrated a similar *auto-da-fe* of Arabic manuscripts, in Granada, some twenty years before. Never did fanaticism achieve two more signal triumphs, than by the annihilation of so many curious monuments of human ingenuity and learning!!! The unlettered soldiers were not slow in imitating the example of their prelate. Every chart and volume which fell into their hands was wantonly destroyed; so that, when the scholars of a later and more enlightened age anxiously sought to recover some of these memorials of civilization, nearly all had perished, and the few surviving were jealously hidden by the natives. Through the indefatigable labours of a private individual, however, a considerable collection was eventually deposited in the archives of Mexico; but was so little heeded there, that some were plundered, others decayed piece-meal from the damps and mill-dews, and others, again, were used up as waste paper! We contemplate with indignation the cruelties inflicted by the early conquerors. But indignation is qualified with contempt, when we see them thus ruthlessly trampling out the spark of knowledge, the common boon and property of all mankind. We may well doubt which has the strongest claims to civilization, the victor or the vanquished. A few of the Mexican manuscripts have found their way, from time to time to Europe, and are carefully preserved in the public libraries of its capitals. They are brought together in the magnificent work of Lord Kingsborough; but not one is there from Spain. The most important of them, for the light it throws on the Aztec institutions, is the Mendoza codex, which, after its mysterious disappearance for more than a century, has at length reappeared in the Bodleian library at Oxford. It has been several times engraved. The most brilliant in coloring, probably, is the Borgian collection in Rome. The most curious, however, is the Dresden Codex, which has excited less attention than it deserves. Although usually classed among Mexican manuscripts, it bears little resemblance to them in its execution; the figures of objects are more delicately drawn, and the characters, unlike the Mexican, appear to be purely arbitrary, and are possibly phonetic. Their regular arrangement is quite equal to the Egyptian. The whole infers a much higher civilization than the Aztec, and offers abundant food for curious speculation."

The legal proceedings of the Mexican government appear to have been nicely framed and judiciously transacted; so much so as to have excited the astonishment of the Spanish conquerors. The judges were independent of the crown; and, if one were known to receive presents or a bribe from a suitor, he was not merely dismissed, but punished with death. In the public courts also, there was a near approximation to the customs of the celebrated court of the Areopagus in Greece.

> " No counsel was employed; the parties stated their own case, and supported it by their witnesses. The oath of the accused was also admitted in evidence. The statement of the case, the testimony, and the proceedings of the trial, were all set forth by a clerk, in hieroglyphical paintings, and handed over to the court. The paintings were executed with so much accuracy that, in all suits respecting real property, they were allowed to be produced as good authority in the Spanish tribunals, very long after the conquest; and a chair for their study and interpretation was established at Mexico in 1553, which has long since shared the fate of most other provisions for learning in that unfortunate country."
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> " A capital sentence was indicated by a line traced with an arrow across the portrait of the accused. In Tezcuco, where the king presided in the court, this, according to the national chronicler, was done with extraordinary parade. His description, which is of rather a poetical cast, I give in his own words:—' In the royal palace of Tezcuco was a court-yard, on the opposite sides of which were two halls of justice. In the principal one, called the ' tribunal of God,' was a throne of pure gold, inlaid with turquoises and other precious stones. On a stool, in front, was placed a human skull, crowned with an immense emerald, of a pyramidal form, and surmounted by an aigrette of brilliant plumes and precious stones. The skull was laid on a heap of military weapons, shields, quivers, bows and arrows. The walls were hung with tapestry, made of the hair of different wild animals, of rich and various colors, festooned by gold rings, and embroidered with figures of birds and flowers. Above the throne was a canopy of variegated plumage, from the centre of which shot forth resplendent rays of gold and jewels. The other tribunal, called ' The King's,' was also surmounted by a gorgeous canopy of feathers, on which were emblazoned the royal arms.' Here the sovereign gave public audience, and communicated his despatches. But, when he decided important causes, or confirmed a capital sentence, he passed to ' the tribunal of God,' attended by the fourteen great lords of the realm, marshalled according to their rank. Then putting on his mitred crown, incrusted with precious stones, and holding a golden arrow, by way of sceptre, in his left hand, he laid his right upon the skull, and pronounced judgment."

After Velasquez had conquered Cuba, Cortez who had served with distinction under him, became disaffected towards his commander and patron, and actually undertook to convey the complaints of a band of conspirators and evilly disposed persons against Velasquez, to the chief authorities of Hispaniola.

> " The Conspiracy got wind, and came to the Governor's ears before the departure of the envoy, whom he instantly caused to be seized, loaded with fetters, and placed in strict confinement. It is even said, that he would have hung him but for the interposition of his friends. Cortez did not long remain in durance. He contrived to throw back one of the bolts of his fetters; and after extricating his limbs, succeeded in forcing open a window with the irons so as to admit of his escape. He was lodged on the second floor of the building, and was able to let himself down to the pavements, without injury and unobserved. He then made the best of his way to a neighbouring church, where he claimed the privilege of sanctuary. Velasquez, though incensed at his escape, was afraid to violate the sanctity of the place by employing force. But he stationed a guard in the neighbourhood, with orders to seize the fugitive, if he should forget himself so far as to leave the sanctuary. In a few days this happened. As Cortez was carelessly standing without the walls in front of the building, an *alguacil* suddenly sprung on him from behind and pinioned his arms, while others rushed in and secured him. This man, whose name was Juan Escudero, was afterwards hung by Cortez for some offence in New Spain.
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> The unlucky prisoner was again put in irons, and carried on board a vessel to sail the next morning for Hispaniola, there to undergo his trial. Fortune favored him once more. He succeeded, after much difficulty, and no little pain, in passing his feet through the rings which shackled them. He then came cautiously on deck, and, covered by the darkness of the night, stole quietly down the side of the ship into a boat that lay floating below. He pushed off from the vessel with as little noise as possible. As he drew near the shore, the stream became rapid and turbulent. He hesitated to trust his boat to it; and as he was an excellent swimmer, prepared to breast it himself, and boldly plunged into the water. The current was strong, but the arm of a man struggling for life was stronger; and after buffeting the waves till he was nearly exhausted, he succeeded in gaining a landing; when he sought refuge in the same sanctuary which had protected him before. The facility with which Cortez a second time affected his escape may lead one to doubt the fidelity of his guards; who perhaps looked on him as the victim of persecution, and felt the influence of those popular manners which seemed to have gained him friends in every society into which he was thrown.'

Soon after this the governor became reconciled to Cortez, and was induced to appoint him Captain General of the expedition which was prepared for the furtherance of Spanish conquests on the main land, of which the history of the gold and valuable gems had now reached the Spaniards. An extraordinary incident is said to have led to the reconcilement of the governor and his martial and ever active officer.

> " It is said that his proud spirit refused to accept the proffers of reconciliation made to him by Velasquez; and that one evening, leaving the sanctuary, he presented himself unexpectedly before the latter in his own quarters, when on a military excursion at some distance from the capital. The governor, startled by the sudden apparition of his enemy completely armed before him, with some dismay enquired the meaning of it. Cortez answered by insisting on a full explanation of his previous conduct. After some hot discussion, the interview terminated amicably; the parties embraced; and when a messenger arrived to announce the escape of Cortez, he found him in the apartments of his Excellency, where, having retired to rest, both were actually sleeping in the same bed."

The new appointment of Cortez to the rank of Captain General of the expedition, was just what his ambitious spirit desired, and the instructions which he received from the governor contained general instructions to be kind to the natives, and to barter with the different nations on the coast as he sailed along. He was especially to keep their conversion in view, and also to endeavour to impress them with a favorable opinion of his royal master the king of Spain, not forgetting to invite them "to give in their allegiance to him, and to manifest it by regaling him with such comfortable presents of gold, pearls and precious stones as, by showing their own good will, would secure his favour and protection." Before the expedition was ready some of the enemies of Cortez insinuated to the governor that he would probably throw off his allegiance to him, and act contrary to his instructions on landing on the main land; and they succeeded in determining the governor to rescind his appointment of Captain General. Cortez was informed of these proceedings, and determined to be beforehand with Velasquez. This one trait will develope the enterprising character of the general:

> "He had not yet got his complement of men nor of vessels; and was very inadequately provided with supplies of any kind. But he resolved to weigh anchor that very night He waited on his officers, informed them of his purpose, and probably of the cause of it; and at midnight, when the town was hushed in sleep, they all went quietly on board, and the little squadron dropped down the bay. First, however, Cortez had visited the person whose business it was to supply the place with meat, and relieved him of all his stock on hand, notwithstanding his complaint that the [illegible] must suffer for it on the morrow, leaving him at the same time in payment a massive gold chain of much value, which he wore round his neck.
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> Great was the amazement of the good citizens of St. Jago, when, at dawn, they saw that the fleet, which they knew was so ill prepared for the voyage, had left its moorings, and was busily getting under way. The tidings soon came to the ears of his Excellency, who, springing from his bed, hastily dressed himself, mounted his horse, and, followed by his retinue, galloped down to the quay. Cortez, as soon as he descried their approach, entered an armed boat and came within speaking distance of the shore. 'And is it thus you part from me?' exclaimed Velasquez; 'a courteous way of taking leave, truly!' 'Pardon me,' answered Cortez, 'time presses, and there are some things that should be done before they are even thought of. Has your Excellency any commands?' But the mortified governor had no commands to give; and Cortes politely waving his hand, returned to his vessel, and the little fleet instantly made sail for the port of Macaca, about fifteen leagues distant, (November, 18, 1516.) Velasquez rode back to his house to digest his chagrin as he best might; satisfied, probably, that he had made at least two blunders; one in appointing Cortez to the command; the other in attempting to deprive him of it. For if it be true, that by giving our confidence by halves, we can scarcely hope to make a friend, it is equally true that by withdrawing it when given, we shall make an enemy."

The little army which accompanied Cortez in his expedition for the conquest of the unknown empires of the new world, amounted to but 110 mariners, 553 soldiers, including 32 cross-bow men, and 13 arquebusiers, besides 200 Indians, accompanied by a few Indian women. He had also 16 horses, 10 heavy guns, and 4 lighter pieces. He first landed at the peninsula of Jucatan, where the Indians soon assembled to oppose his landing.

> "When day broke the Spaniards saw the opposite banks lined with a much more numerous array than on the preceding evening, while the canoes along the shore were filled with bands of armed warriors. Cortez now made his preparations for the attack. He first landed a detachment of a hundred men under Alonzo de Avila, at a point somewhat lower down the stream, sheltered by a thick grove of palms, from which a road, as he knew, led to the town of Tobasco, giving orders to his officers to march at once on the place, while he himself advanced to assault it in front. Then embarking the remainder of his troops, Cortez crossed the river in face of the enemy, and brought his boats along side of the Indian canoes. They grappled fiercely together, and both parties were soon in the water, which rose above the girdle. The struggle was not long, though desperate. The superior strength of the Europeans prevailed, and they forced the enemy back to land. Here, however, they were supported by their countrymen, who showered down darts, arrows, and blazing billets of wood on the heads of the invaders. The banks were soft and slippery, and it was with difficulty the soldiers made good their footing. Cortez lost a sandal in the mud, but continued to fight barefoot, with great exposure of his person, as the Indians, who soon singled out the leader, called to one another, 'Strike at the chief!'
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> "At length the Spaniards gained the bank, and were able to come into something like order, when they opened a brisk fire from their arquebuses and cross-bows. The enemy, astounded by the roar and flash of the fire arms, of which they had no experience, fell back, and retreated behind a breastwork of timber thrown across the way. The Spaniards, hot in the pursuit, soon carried these rude defences, and drove the Tobascans before them towards the town, where they again took shelter behind their palisades.
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> "Meanwhile Avila had arrived from the opposite quarter, and the natives taken by surprise made no further attempt at resistance, but abandoned the place to the Christians. They had previously removed their families and effects. Some provisions fell into the hands of the victors, but little gold; 'a circumstance,' says Las Casas, 'which gave them no particular satisfaction."

(To be continued.)

The History of China, Pictorial and Descriptive, from the earliest period to the present time. Part 7. By Miss Corner. London: Dean and Co.

It is singular to observe how a beneficent providence has furnished from the vegetable kingdom in various countries, productions so remarkably suited to the wants of the inhabitants. Thus, the inhabitants of China are rendered almost independent of animal productions in their cottons, silks, tea, sugar, and rice. In addition to these, as they have, and consequently consume few animals, they are necessarily deficient in tallow for candles, which must be a national want wherever it exists; yet, most wonderful to relate, there is a tree growing in abundance over the country, which produces an excellent substitute for tallow. Indeed, in their vegetable substances, they are most remarkably favored.

> "There are many curious trees in China that are unknown in Europe, among which are those that produce camphor, tallow and wax. The camphor tree grows to a great height, and is one of the most useful timber trees in the empire, as it does not split, and is never destroyed by insects. It is chiefly used for chests and household furniture, and sometimes in boat building. The luxuriant foliage of this fine tree is of the brightest green, and from the fresh gathered branches is obtained the resinous gum which we call camphor, and with which the wood is highly scented. The tallow tree has some resemblance to the aspen and birch, the branches being long and flexible. and the leaves of a very dark green, which in autumn turn red, with a purple tint. The fruit, or rather seed, is contained in brown pods that grow in bunches at the extremity of each bough, and, on opening, disclose three small, white berries, which hang very prettily by their slender strings when the husk has completely fallen off These have each a small nut in the middle, but the white coating is the tallow, of which candles are made; and thus the Chinese, who from local circumstances, kill but few animals as compared with the number killed in England, are furnished with a vegetable substance which supplies the deficiency of the material used here for the manufacture of candles; but as their tallow is softer, and melts more readily than ours, they harden it with a coating of wax, which is also obtained from a tree or large shrub, of which, however, it is no part, being formed upon it by little white insects that settle at certain seasons of the year in such vast swarms upon the tree, that it is completely covered with them, and becomes encrusted with a white, hard, shining wax, so that it is commonly known by the name of the wax tree. The tallow tree abounds in the island of Chusan, where the manufacture of candles is extensively carried on; and in fact, this is a very important branch of Chinese industry, as it is not only for domestic purposes that lights are required, but all the temples have to be supplied with those great candles that are set up at the festivals, before the images. The bamboo, and many of the purposes to which it is applied, have already been noticed. There are many varieties of this valuable production of the east, which grows in India as well as in China, some kinds being much larger and stronger than others, and differing also in colour. In the construction of temporary buildings, it is far more useful than timber, on account of its lightness; and from it are made excellent water pipes, the cabins of the sam pans or family boats, ropes, &c. whilst it enters largely into the manufacture of paper. Its young shoots are a very delicate vegetable for the table, not unlike asparagus; and among the innumerable minor purposes to which it is applied, we may mention its employment at Canton in the manufacture of hats, which are made and sold to foreigners in that city. The making of these hats is a specimen of the ingenuity of the Chinese, who are very clever in imitating any thing which they see, and will produce the counterpart of a European hat with the most minute exactness. The body of the hat is made of a composition formed of the inner part of the bamboo beaten into a pulp and mixed with glue. It is spread on a block of the proper shape, and, when dried, is covered and lined in the same manner as gentlemen's silk hats in this country. There is another species of reed that grows in the marshes, very much smaller than the bamboo, seldom measuring more than two inches in diameter, the pith of which is the material commonly called rice paper. The pith is used in its natural state, being only pared in thin slices, and rolled out into flat sheets, as we receive it in this country. The Chinese paint flowers, birds and butterflies very beautifully on this paper, of which they also make artificial flowers in large quantities—a trade that has long flourished in Nanking, the reeds being found in great abundance in the neighbourhood of that city."

After this interesting account of the natural history of the most remarkable trees and plants, the author returns to the history of China, and describes how the warlike mountain tribes, called Meaoutse, again declared war against the present Chinese monarch, who ascended the throne in 1820, and were not subdued or pacified without many unsuccessful engagements on the part of the Chinese. The emperor's name is Taou-Kwang, or "*The glory of reason.*"

Soon after the conclusion of this war, the disputes with England commenced, which ended by the recent submission of the Chinese sovereign.

In 1833, the charter of the East India Company expired. By that charter the Company's ships alone were privileged to trade to China. Since that time, private ships were allowed to trade to that country, and this much increased the *contraband* trade in opium. The late emperor Kien-Long, had interdicted the trade, but still the opium was secretly introduced and smoked in secret by the officers of justice themselves. The quantity produced in India, and brought into China by the private ships increased, and the attention of the emperor was again called to the subject. One motive for this activity of the government is supposed to be the great exportation of Sycee, or ingot silver, which the smugglers required for the opium. In order to terminate the trade by some effectual means, a High Commissioner, Lin-tsihsen, provided with ample powers, was to proceed to Canton and punish the delinquents on both sides, where he arrived in the beginning of 1839.

"The factories belonging to the merchants of Europe and America occupy a small space along the banks of the river, outside the walls of the city, and are built on piles, as their situation renders them liable to inundation. They are railed in, and have a space allotted for garden ground, with a promenade, called the Respondentia walk, which was all that the law allowed to foreigners in the vast empire of China, until the late concessions. The factories are British, Dutch, American, French, Austrian, Danish and Swedish, each consisting of several brick or stone edifices, built along the side of an open space of inconsiderable dimensions. Three streets in the suburbs, leading from these factories, contain the shops where foreigners purchase all that they require for their own use, for they are not allowed to enter the town, even for the purpose of buying goods. Every one of these shops has a sign, like that of a country inn in England, gaudily painted and gilded. The occupiers are dealers in carved ivory toys, porcelain and other goods, the trade which is not restricted to the Hong merchants, whose exclusive privilege is confined to the more important articles of commerce, as tea, silks, and cotton. When Commissioner Lin arrived at Canton, it happened that there were several British ships in the river, having not less than 20,000 chests of opium on board. These he demanded should be given up without delay, to be destroyed, requiring, at the same time, that the merchants to whom they belonged should bind themselves, by a written engagement, never to bring any more opium to China, and they were informed that, in the event of breaking that engagement, they would be liable to be tried and punished by the laws of China. This unreasonable demand caused the utmost confusion in the British factory, as some of the merchants, chiefly those of Bombay and Calcutta, trusting to the encouragement that had been so long afforded to this particular branch of trade, notwithstanding its illegality, had embarked the greatest part of their capital in the cultivation and purchase of the drug, for which there was now no market, so that their ruin was inevitable, unless they could contrive to dispose of their opium secretly, as they used to do; and as this mode of traffic was always liable to detection, they naturally hesitated to give a bond that would place their lives at the disposal of the Chinese government, provided they should at any time be found in such illicit dealing."

The governor ordered all the foreign servants to leave the factories, and surrounded them with troops, and then desired the Hong merchants to ascertain the number of chests of opium on board, and the names of the owners. In his address "he reproached the strangers with returning *evil for good*, in bringing into the country a poisonous drug to injure both the health and morals of the people, and gave them to understand that in case of continued disobedience, they would be forbidden to trade to China any longer."

"Finding, however, that this exhortation failed to produce the desired effect, the governor continued the blockade of the factories, and even threatened to put the occupants to death; on which the British superintendant, Captain Elliot, deemed it advisable to agree to a surrender of the opium, in order to secure the safety of his countrymen. Several weeks were occupied with the landing of the drug, during which the merchants were still detained in the factories; but as soon as it was ascertained that all the chests had been brought on shore, the troops were withdrawn, and the captives left at liberty to depart."

The emperor, in the meanwhile, had ordered the commissioner to destroy the opium, which was done by putting it into large trenches dug near the Bocca Tigris, (mouth of the river,) where, being mixed with quicklime, salt and water, it was decomposed, and ran with the mixture into the sea. The British, meanwhile, had retired to Macao, the Portuguese settlement, which has forts garrisoned by about 400 men. In this is the cave where resided Camoens, the composer of the "Lusiad," the chief poem of the Portuguese literature; he had been banished for five years to this island by the viceroy of the Indies, for a satirical poem which he wrote against him. The grotto is composed of large fragments of rock. A quarrel soon after took place in Macao, in which a Chinese sailor was accidentally killed. This occasioned a new quarrel, for the Chinese with astonishing injustice make no distinction between intentional and accidental death; and on the demand for the culprit being rejected, an order was issued for depriving the English of all supplies of provisions, which induced Captain Elliott, to remove the fleet to Hong Kong, a rocky island, eight miles long and five wide, about 35 miles to the east, inhabited by fishermen, whence he wrote to the governor-general of India for assistance in ships and men. The Chinese commissioner ordered a suspension of all trade, and the fleet under the veteran admiral Quan was ordered to attack the English.

A Narrative of a Visit to the Australian Colonies. By James Backhouse. Illustrated by 3 maps, fifty etchings, and several wood cuts. London: Hamilton, Adams and Co.

(Continued from our last Number.)

OUR last notice of the missionary travellers brought them to Van Dieman's Land, from which they sailed in a government cutter, to visit Flinder's island, where an establishment was formed for the Aborigines. We are furnished with a brief but valuable notice of these good-natured people from the time of the first settlement of the English to the period when they were visited by James Backhouse. This account includes also a historical notice of Van Dieman's Land.

"Van Dieman's Land was discovered by Abel Jansen Tasman, in 1642; he supposed it to be a part of the Australian continent, and named it in honor of Anthony Van Dieman, at that time governor-general of the Dutch possessions in the East Indies. It was ascertained to be an island in 1798, by Dr. Bass, and taken possession of for the English in 1803, by Lieutenant Bowen. The first lieutenant-governor arrived in 1804, and removed the seat of government from the original settlement at Risdon, or Rest-down, on the east bank of the Derwent, to the present site, which he named Hobart Town, after Lord Hobart.

The island lies between 41°20' and 43°40' south latitude, and between 144°40' and 148°20' east longitude: its length is about 210 miles from north to south, and its breadth 150 from east to west; it is very mountainous and covered with forest, which in many parts is extremely thick, but in others open and grassy. The original inhabitants, whose forefathers had occupied it from time immemorial, were of the negro race. They were of moderate stature, dark olive colour, and had black, curly, woolly hair. They were few in number, probably never more than from 700 to 1000, their habits of life being unfriendly to increase. Excepting on the west coast, they had no houses, but in inclement weather took shelter in the thicker parts of the forest, in the valleys, or near the sea. They wore no clothes, but sometimes ornamented themselves by strips of skin with the fur on, which they wore round the body, arms, or legs. To enable them to resist the changes of the weather, they smeared themselves from head to foot with red ochre and grease. The men also clotted their hair with these articles, and had the ringlets drawn out like rat-tails. The women cropped their hair as close as they could with sharp stones or shells.

"These people formed a few tribes, differing a little in dialect and habits; they were destitute of any traces of civilization; their food consisted of roots and some species of fungus, with shell fish, grubs, birds, and other wild animals. The latter they took by means of the simplest missiles, or by climbing trees; they cooked them by roasting, and daily removed to a fresh place to avoid the offal and filth that accumulated about the little fires, which they kindled daily, and around which they slept. In this state the first European visitants of their island found them, and mistaking some peculiarities in their manners for stupidity, set them down as lower in intellect than other human beings.

"In the early days of the settlement of Van Dieman's Land by the English, a party of the Aborigines made their appearance near Risden, carrying boughs of trees in token of peace, and were fired at by order of a timid officer who became alarmed at their visit. Several of them were killed, and the rest fled in alarm. Though they did not forget this act of outrage, they were long before they became hostile.

"The opinion seems general that the misconduct of Europeans gave rise to the aggressions of the Aborigines. These aggressions, however, produced retaliation on the part of the Whites, who shot many of the Aborigines, sometimes through fear, and there is reason to apprehend, sometimes through recklessness. At length, the Aborigines finding themselves in danger, and their hunting grounds occupied by the intruders into their country, determined to attempt to expel them. For this purpose they set fire to houses, and speared persons at unawares, until there were few families in the island who had not sustained some injury, or lost some member by them: the woody nature of the country afforded them ready concealment in thus carrying forward their attacks.

"About 1828, a part of the colony was declared to be under martial law, as regarded the Aborigines; and about two years after, a military expedition was undertaken, with the intention of driving all those in the south-east part of the island, to Tasman's Peninsula. This project, which a better knowledge of the country and the people, proved a most absurd one, happily ended in no greater evil than the expenditure of a considerable sum of money, and the sojourn of a large portion of the male white inhabitants for a few weeks in the 'bush,' with little or no loss of life on either side. A 'cordon' was formed across the country, but it was found impossible to keep the people in a line among the rocks, ravines and thickets with which the island abounds, and the Aborigines stole through the ranks in the night, and escaped safely into the rear of their pursuers.

"At length, George Augustus Robinson, a benevolent individual, professing to be actuated by a sense of religious duty, offered to go into the woods, attended only by a few of the native Blacks, who had become domesticated, and had lived with him for a time on Bruny Island, and from whom he had acquired some knowledge of their language, and to endeavour to conciliate the Aborigines, and to persuade them to give themselves up to the protection of the government, on condition of being well provided for, on an island in Bass's Straits. This project was considered by most, as one of madness, but it met the patronage of the lieutenant-governor and the senior colonial chaplain, as well as of a few others, and Robinson set forth on his mission of mercy, and succeeded in his object. He was sometimes exposed to considerable danger, and had difficulty in obtaining interviews with the alarmed natives; but in order to inspire them with confidence, he put away every thing that they could mistake for weapons, and approached them with extended hands, even when the Blacks who accompanied him shrunk back through fear.

"The first of these people who became reconciled, were placed on Swan Island, which, being bare of wood and much exposed, was soon found unsuitable. They were therefore removed to Guncarriage Island; but this was also found too small, and it did not afford wild animals for their support in case of need. They were at one time in danger of starvation from the failure of their provisions, which were irregularly supplied from the colony; but they were relieved by a small quantity of potatoes obtained from some sealors. Their next removal was to a place on Flinders' Island, where their wants were better attended to, and where we found them in 1832. And here, their numbers received accessions from various parties successively conciliated, but it never became large, as few of them had children, and many of them, before being removed hither, had attained to the average period of the duration of their lives.

Flinders' Island is of granite, and is about 130 miles in circumference; mountainous and rocky. The lofty parts are sterile, but the lower hills are covered with timber, chiefly blue gum. The lower grounds in various places are clothed with tall scrub, intermixed with the oak and other trees. The open, grassy parts are not numerous, but some portions are capable of cultivation. The wallaby, a small species of kangaroo, abounds here, as do also various kinds of wild fowl.

A considerable number of the aborigines were upon the beach when we landed, close by the settlement, but they took no notice of us until requested to do so by W. J. Darling; they then shook hands with us very affably. It does not accord with their ideas of proper manners to appear to notice strangers, or to be surprised at any novelty. On learning that plenty of provisions had arrived by the cutter, they shouted for joy. After sun-set they had a "corrobery" or dance around a fire, which they kept up till after midnight, in testimony of their pleasure. In these dances the Aborigines represented certain events, or the manners of different animals: they had a horse dance, emu dance, a thunder and lightning dance, and many others. In their horse dance they formed a string, moving in a circle in a half stooping posture, holding by each other's loins, one man at the same time going along, as if reining in the others, and a woman as driver, striking them gently as they passed. Sometimes their motions were extremely rapid, but they carefully avoided treading one upon another. In the emu dance they placed one hand behind them, and alternately put the other to the ground and raised it above their heads, as they passed slowly round the fire, imitating the motion of the head of the emu when feeding. In the thunder and lightning dance they moved their feet rapidly, bringing them to the ground with great force, so as to produce a loud noise, and make such a dust as rendered it necessary for spectators to keep to windward of the group. Each dance ended with a loud shout, like a last effort of exhausted breath. The exertion used made them very warm, and occasionally one or other plunged into the adjacent lagoon. One of their chiefs stood by to direct them, and now and then turned to the bye-standers and said "Narra, coopa corrobery," *very good dance*, evidently courting applause."

The vast flocks of the mutton bird to be met with on the coasts of these latitudes are truly astonishing and they afford very seasonable food for the ill fed natives.

The following description will doubtless interest our readers:

"Perhaps no bird except the American migratory pigeon, is to be met with in flocks equal in magnitude to those of the mutton bird; and the latter, like the former, lays only a single egg. The mutton birds, or sooty petrels, are about the size of the wood pigeon of England; they are of a dark color, and are called *yold* by the natives. During the period of their resort, to land, they became the prey of men and of hawks, of crows and of other ravenous birds, and of black snakes. But notwithstanding the wholesale carnage committed among the mutton birds, their number is not perceptibly lessened. The greatest quantities are destroyed for the sake of their feathers; two tons and a half of which are said to have been sent from this part of the straits in a season: these would be the produce of 112,000 birds, twenty yielding one pound of feathers. From the great length of their wings, these birds cannot rise from a level surface. The sealors take advantage of this, and enclose certain portions of the islands at night, with converging lines of bushes terminating at a pit of six feet long, four feet broad, and three feet deep, lined with boards or bark, and having a fence two feet high at the farther side, to prevent the birds taking flight, when they come to the edge of the pit. At sunrise, when the birds come out of their holes, they are driven towards the pit, into which they fall till it is full; a sail or thatched hurdle is then thrown over them, and the fences are removed, to allow the remainder of the birds to pass off to the sea. The birds in the pit are suffocated in a few minutes, and the native women are set to strip off their feathers, which are put into bags for exportation. The feathers have an unpleasant smell, but they bring about 6d. per pound in Launceston. When fresh, these birds are pretty good eating, at least as a substitute for salt meat. Great numbers of young ones are salted and dried, in which state they taste much like red herrings. The eggs are also collected in great quantities. The Aborigines at the settlement have been supplied with six eggs a day, each, for upwards of two months together. As the young birds all leave the islands at the same time it is not probable that the robbed birds lay a second time. The sealers make the young birds disgorge oil, by pressing their craws: this they use for their lamps and for various other purposes. We remained on the island till dark, when the air seemed alive with myriads of these birds returning to roost; so that in looking up, we were reminded of a shower of large flakes of snow. When once on the ground they tried in vain to fly again; when alarmed, they shuffled along by the combined efforts of their feet and wings, and tried to rise. They were easily taken by the point of the wing, being unable with their beaks to reach the hand that held them by that part. It was difficult to avoid treading upon them, and they were clucking in all directions among the barilla, &c. W. J. Darling once lay down upon his back when they were returning to roost, and killed twelve with a waddy without moving from the spot. Flinders computed one of the flocks that he saw in these seas to be forty miles long, and to contain as many birds as would require an area of sixteen square miles for their nests, at a yard asunder. From what is now known of their breeding places, they probably occupy a much larger extent of ground than sixteen square miles, in the various places of their resort."

(To be continued.)

A Series of Catechisms on the History of England, Geography, Bible History, Common Things, Natural Philosophy, &c. &c. By the Rev. T. Wilson. London: Darton and Clarke, Holborn Hill.

THESE well arranged little works constitute a most valuable addition to our stock of introductory books, and have our best recommendation. They are written in a very familiar style, and contain the simple principles on which they treat, described in the simplest terms. The present is such an age of inquiry and discovery, that the parent of 20 years standing is left behind in the race of intelligence by his child. These little books will be eminently useful to a person who has not received much instruction in philosophical matters himself, if he wish to improve the minds of his children. For general instruction also, in schools, they possess great advantages. They contain many handsome Plates and Wood-cuts.

[*See Advertisement.*]

Literary & Scientific Meetings.

BRITISH ASSOCIATION.

PROCEEDINGS OF THE GEOLOGICAL SECTION,

(Continued at length.)

Friday, 18th August.

MR. MURCHISON said that Mr. Griffith's beautiful map was one that was highly creditable to any Geologist.—It must have required great labour, and activity, and perseverance, to mark the Geological boundaries on such a large tract as this whole island.—He said in reference to the old slates of the County Down, that he did not think they ought to be called Cambrian. They are a continuation of the Lammermuir hills in Scotland, in which were found graptolites and other fossils.—He therefore claimed them as belonging to his own formation, the silurian, and he had no doubt, upon farther examination, that fossils of the silurian strata would be found in several places.

With respect to the paper just read, it offers remarkable analogies to Russia. A similar yellow rock to that at Cultra occupies large regions there. There is a striking value in the subdivision of the Carboniferous limestone—the great red sandstone of Scotland, now the coal series of that country, at Berwick is proved to lie under the mountain limestone. The yellow sandstone, and lower red sandstone, are there parallel to the coal fields of Berwick—the sandstones of Scotland are the equivalents of the Irish rocks, below the limestone—they are conformable in position—they are yellow and red in colour—Posidoniæ are found in Northumberland in the middle of the limestone and also in Devonshire the same as they are here. Of the Posidoniæ of the German geolists the position is doubtful.

Mr. Griffith again stood up and observed, that thin beds of coal were found in this country also, very low down—one occurred three inches thick at Formil, to the NE. of Lough Erne, in the yellow sandstone.

Professor Phillips observed, that the sandstones in Ireland though very valuable in affording data for their classification, are yet but a small point in the great Carboniferous rocks. The old red sandstone in the south must be studied, to determine the position of the limestone over it.—There is not good data for the south—it appears that Mr. Griffith's conclusions are the same as in England. In England the lower slate is imperfect, but in Ireland remarkably complete; whatever classification is adopted in Ireland, will be binding in England—the old red of Cork is exactly the same as that of Pembrokeshire in South Wales—yellow beds are interposed here over them; at Pembroke the same—there are there also as here, several hundred feet of shales, and limestone; no analogy can be more strong and certain. The old red sandstone was ranked formerly by Mr. Conybeare, with the Carboniferous rocks. In Pembrokeshire it is 3500 feet thick—in other points 4000 feet.—In the forest of Dean 7000 feet, with limestone at the top, and silurian below conformable. The deposits consist of conglomerates, and argillaceous, and calcareous rocks, in great variety. Such a mass of rocks must have required a long period of time in their deposition; at the same period were deposited beds of rock in Devonshire, the Eifel, and Russia, containing fossils similar to those found in the Irish series.

Mr. Murchison said, the silurian fossils are one class, the Carboniferous fossils are another—those below are one series of organic life—above another. In South Wales the bottom of the old red has fossils—then a space occurs in which there is no trace of animal life—these rocks in Cork, the same as in Wales, are 3 or 4000 feet thick, and below them the silurian.

Mr. Lyell said there was one point that struck him. The Irish yellow sandstone, resembles mineralogically the passage from the red upwards, in Fifeshire, in Scotland. It agrees there with the yellow sandstone of Mr. Griffith. Agassiz considered it more with the Carboniferous, than the lower red part. It contains cartilaginous fishes with hard outsides. He thinks Cork an independant formation like the red sandstone and olive slate of the Apalachian chain. The Geology of Ireland is new to him—three fourths of the whole surface appears to be Carboniferous—it is advantageously made into five divisions here—it is of great thickness. The similarity of plants, mollusca, and fish is striking. In America two-thirds of the fossil plants are not distinguishable from those of the coal of Europe, although they are 5000 miles asunder—a proof that very universal laws prevailed in the distribution of organic life. The beds of pure coal are the same in all—the prevailing opinion of modern Geologists is, that in all the productive coal fields, the plants grew on dry land where the coal now is—the land of Greenland is now sinking—the Carboniferous sea prevailed here—there is a great contrast between Ireland and France: the French say the Carboniferous sea never entered France. In Ireland those rocks are 6000 feet—there are 8000 feet in the millstone grit—the beds of coal were dry, like the bogs, and gradually sunk to the bottom of the ocean, where they were covered by sedimentary matter, which afterwards became rock. There is considerable variation in the deposits of the present times—in one sea, sandstone is forming: in another coral: in a third mud: in a fourth clay, and in some fine sand.

Mr. Murchison hoped that the old red sandstone would in future be not a terra incognita: that Mr. Griffith would refer it to the carboniferous above: to itself the old red: or to the silurian below. In Cornwall, several species of Holoptychus were found in the old red sandstone.

Professor Phillips read his paper on certain movements in the parts of stratified rocks. He stated some interesting facts to the meeting on this subject. For many years the attention of the Geologists had been called to the internal structure of rocks. In respect to the knowledge of organic remains, found in the various strata, the progress made was commensurate with the degree of attention bestowed on the subject; but in regard to the internal structure of rocks, a branch of study greatly different, notwithstanding the advances accomplished of late years, there were still points in the arrangement of substances of an inorganic nature, occurring in stratified rocks, of a sufficiently striking nature to interest persons who might feel a curiosity in regard to the internal forces employed in producing the characters which the rocks exhibit. The learned Lecturer had been for many years interested in considering questions of this nature, and when a student in Mineralogy, he attempted to measure the planes of the neighbourhood of Westmoreland, to discover the apparently crystaline form of the prismatic masses of slate. In measuring them he became satisfied that these masses were not of the nature of ordinary crystalization, but that there were circumstances connected with the nature of the substance, and with the position of the strata which affected the arrangement of the planes.

In order to understand the nature of the mechanical forces which have produced the cleavage, it is important to study it in its relation to every form of strata.

The planes of cleavage of the slate rocks of Wales, are parallel to the axis of elevation of the country, not parallel to the particular curves. He hopes, ere long, to be able to produce the relation of planes of cleavage, as compared with the axis of elevation, the planes of the beds, and the planes of faults. In North Wales the planes of cleavage maintained there dips for fifty miles, not varying more than a few degrees, which might be owing to movements in the rocks subsequent to the cleavage. In argillaceous beds the angle of the cleavage lines are nearer to vertical than arenaceous, or make a more acute angle with the sedimentary lines.

The lines which often appear on the surfaces of rocks are often the edges of the cleavage planes. These lines are very fine, in fine argillaceous rocks. They form ridges and groves in the arenaceous rocks. In the Cambrian rocks the cleavage spoiled the organic remains. It is very hard to get good specimens of fossils in slates. The shells in slaty rocks are generally marked by ferruginous lines, caused by their decomposition. They usually occur on the surfaces of the beds, and the form of their outlines is often much changed. The Leptena in North Devon, occasionally assumed the form of nucula, and the spirifers were crumpled, attenuated, or underwent some other form of distortion. The trilobites of the Llandeilo flags are found in three distinct forms arising from the distortion having taken place in a longitudinal, transverse, or oblique direction. This seems to be the result of a creeping movement along the planes of stratification, the effect of which was to roll them forward in a direction always the same, in the same tract of country. This movement does not appear to have effected the hard shells, but those which were thin, as also the algæ and trilobites. In these distorted fossils the amount of the movement might be estimated. In the space occupied by a trilobite it amounts to half an inch. Concretions existed before slaty cleavage. They affect the cleavage planes. He might say the planes of cleavage were bothered by the interference of hard nodules in strata. He had selected these facts from a series of observations on the subject, because he regarded them as steps towards a mechanical theory of the changes by which the structural characters of rocks, and accidents of position, were to be determined.

Mr. Hopkins remarked that Professor Sedgwick had been the first to observe the relation of the cleavage of slaty rocks to the beds. He thought the phenomena of cleavage could only be accounted for by internal forces; and it was extremely difficult to estimate the effect of the molecular action of one part of a rock upon another, and required a more accurate mathematical analysis than we now possess. He begged to inquire whether Professor Phillips considered that since the planes of cleavage were posterior to flexure, and posterior to the time of anticlinal lines, they were anterior to denudation.

Professor Phillips said all grand flexures in South Wales, and the same in the south of Ireland, have affected alike the silurian, the old red, the carboniferous slate, and shales of the mountain limestone below and above. Contortions affect all strata to the most recent of the coal, on which the magnesian limestone rests. So that denudation was prior to cleavage, and cleavage anterior to the magnesian limestone. He could say, at all events, the cleavage planes do not extend into the new red sandstone.

Mr. Hopkins said, this branch of science offers great difficulties. It is only with accurate data we can explain its laws. Molecular action is now engaging the attention of the most acute intellects. Mathematics must be improved to be applied to this. He cannot now offer any mechanical theory on this subject, nor can any one else. Professor Forbes, in his paper on Glaciers, in explaining the ribbon structure, or planes of stratification, where parallel bands of ice occur, from half an inch or a quarter, to an inch wide, says, that in his opinion, the direction of the striæ were perpendicular to the lines of greatest pressure

Mr. Binney said slaty cleavage sometimes refers to localities, and instanced the case of a whin dike in the colliery at Newcastle-upon-Tyne, 24 feet wide, which cuts the shales of coal. There is a vertical cleavage parallel to the edge of the dike. Those cleavage planes are very thin for one foot from the edge; at ten feet from the dike the strata resumed their usual horizontal appearance. There are three lines in coal, one in the stratification, the second in the diagonal, and the third vertical cleavage. Some coal beds have the diagonal lines strongest. A sigillaria, one foot in diameter, was found in the Pennant coal, with its roots extending nine or ten feet. These roots are the stigmaria of the coal fields. So that the sigillaria must in future be called stigmaria.

After a little more discussion the president closed the proceedings of the day, and adjourned to the meeting of the General Council at 3 o'clock.

A SCENE IN THE PRESENT WAR OF CIRCASSIAN INDEPENDENCE.

THE Circassians having, according to the late accounts from the Russian General Budberg, again surprised a fortress erected for their oppression on the Black Sea, and revenged their defeat on the banks of the Koudian, the following illustration of a scene in the commencement of this protracted contest for independence on the one hand, and unjust extension of territory on the other, will exemplify somewhat the character of the contending parties, as delineated in a recital of General Leon de Narischkin.

For the purpose of commanding the coast-land of Circassia, it had been decided by the Russian cabinet to block up the Circassians in their mountain defiles, and by fortifying the sea coast, to cut them off from all communication with the different foreign maritime adventurers, among whom the British merchants on the Bosphorus were pre-eminent, who continually furnished them with salt and gunpowder—articles necessary to their existence.

The Russians landed in the spring of 1840, without meeting with much resistance from the mountain tribes, and redoubts were shortly constructed on the principal points best adapted to further the object intended. Unfortunately, however, from the peculiar character and intersected nature of the terrain, which admitted of no chain of communication in their position, it was found necessary to furnish them with martello towers on each of which a wall-piece was mounted, served by four men, defended from the inside by loop-holes, and furnished with provisions for several days. The construction of all these towers was not, however, carried into effect, and the hastily constructed redoubts, three in number, afforded alone a protection capable of defence with small arms for their weak garrisons, each of which consisted only of from 140 to 180 men, commanded by a captain and two subaltern officers. The third redoubt was the largest, and even too extensive to permit of a sufficient force for its defence. It was commanded by captain Laikoff, at the head of a garrison of 500 men.

The Circassians, under the command of one of their most enterprising and courageous chieftains, had soon detected the isolated position, as well as the small numerical strength of the garrisons within the redoubts. They, therefore, assembled, to the amount of 12,000 warriors, and summoned the commanders, through flags of truce, to surrender; which was, however, obstinately refused by the latter. Confiding in their superior numbers, and certain of victory, they again summoned the different commanders, and declared that they would march to the attack on the following day.

In effect, the next day they made their appearance, headed by sappers, armed with ponderous axes, and followed by a cloud of skirmishers, who had the order to retire upon the main body, should the latter be compelled to retreat. A long line of fascine bearers next made their appearance, and behind these, the reserve destined to storm the redoubts. The first redoubt offered so formidable a resistance, that it was not taken. The other two fell into the hands of the enemy only upon the death of the last of their defenders; and the animosity of the Circassians was carried so far as to bury alive the two wounded officers, whom they found among the bodies of the slain.

At length they advanced, 10,000 strong, in dense masses before the large redoubt, which, on account of its extent, could neither be manned in its whole circumference, nor effectively defended. Captain Laikoff, the commandant, with a correct estimate of the threatened danger, had the forethought and judgment to order the construction of another redoubt over the powder cellar as a last place of refuge and defence. As soon as he perceived, from the results of the defence, the eventual hopelessness to resist the overwhelming might of the enemy, he assembled his men around him, and declared to them his fixed determination to resist still to the last man; and, as all participated in his enthusiasm, he selected two from their number, provided them with hand-grenades, and commanded them, as soon after their retreat to their last hastily constructed entrenchment, as they should find the number of the defenders reduced to twelve, to light them and fling them into the powder room.

The assault was terrific—more terrific the resistance. As, however, the multitude of the enemy had now prevailed over the despairing bravery of the handful of combatants who yet opposed them, and that three-fourths of the garrison had fallen, the captain ordered three of his six guns to be spiked, and retired with the remaining three to his last intrenchment. At length after the most lion-hearted resistance, behind a triple wall of the bodies of his gallant comrades, he made the signal agreed upon to his two grenadiers. In the same moment that the Circassians rushed on in masses to the storm, and believed themselves in full possession of the redoubt, the explosion followed, hurling into the air every man who had penetrated the intrenchment, with a violence that carried the massive beams of the works to a distance of six hundred yards. The rocks around trembled with the shock, and the thundering echo carried to the furthest mountains the report of the heroic deed. Heavy was the loss of the Circassians. A Cossack, stationed as vidette on one of the distant towers, which the Circassians would not take the trouble to assail, witness of this fearful scene, was taken prisoner shortly after, but escaping with great dexterity, furnished the particulars of the foregoing relation.

FIRST BRITISH INVASION OF AFFGHANISTAN.

As several interesting volumes respecting recent events in that country have been published, we present to our readers a brief notice of its occupation by the British army, by which they will be better informed of the reasons of some of the late occurrences. Like the natives of many mountainous countries, the Affghans have long been distinguished for their warlike qualities, which enabled them about a century since to overrun and even conquer the entire Kingdom of Persia. The sovereign who latterly ruled these tribes was Dost Mahommed, who was supposed by our government to be favorable to the intrigues of Russian influence and gold, by which a passage might be opened to their armies, if during a period of warfare, they might think it desirable to invade our East Indian possessions by that difficult and almost impracticable route. Once in possession of the forts which command this formidable series of mountain passes, our territories would lie exposed to their arms. It was resolved, therefore, to dethrone Dost Mahommed, and reinstate in possession of the vacated throne, Shah Shoojah, who, himself had formerly been absolute ruler of the same country, but who had been removed from power, by one of those revolutions so common in Asiatic countries. To effect this purpose, our army, designated "the army of the Indus," commenced its progress from the southern East Indian possessions. Dr. Kennedy's journal furnishes us with the best notes of the first approach of a British fleet to this celebrated river :

> "At 9 o'clock (November 27, 1838,) the vessels at anchor at the Hujamry mouth of the Indus were descried ahead, and at 12 o'clock the steamer anchored near the Palinurus; nothing of land was to be seen but the long low sand bank, and a beacon land-mark, built apparently to about four feet high of pile work, with a lozenge shaped target at the summit. A more dreary prospect was never exhibited; and, considering as we may, that, excepting what the Portuguese may have done, ours is probably the first armament which has appeared to force a way up the Indus since the fleet of Nearchus sailed out, 2000 years ago, we may safely conjecture in addition, that a more unpromising coast for the disembarkation of an army has been seldom approached or left since that day by any fleet of transports."

The shipwreck of two native boats chiefly laden with females going to a wedding, gave an opportunity to the British sailors to display their native energy and generosity. The women were all saved and the natives could not conceive why the British could thus place their own lives in jeopardy for the benefit of utter strangers. Asiatic selfishness will be long in arriving at such a state of perfect disinterestedness. So great was their admiration that the chief matron exclaimed, "You have come to conquer Scinde; and God is great! you deserve to conquer it."

> "November 27, 1838, the Paget transport, having on board the 5th regiment of Bombay Native Infantry, anchored in the Hujamry a few minutes before sun-set, followed by the Syden with her Majesty's 2nd Royals. As these vessels anchored, the regimental drums beat off for sun set; the first British drums on the Indus."

The poem with which Dr. Kennedy celebrates this remarkable event, contains so many allusions to the history of our East Indian empire, that we give some extracts from it :

As the sun went down where the Indus' flood
Rolls forth its turbid and troubled water,
And ocean recoils for many a rood
Earth-stain'd by the mighty tribute brought her,
Our anchors were dropt, and our masts were bare,
We had reached the renowned stream of Ind,
Our freight was a host, and our only care
To discharge that freight on the shores of Sind.

At that sun-set hour, o'er the Indus' water,
First echo'd the roll of the British drum :
What boded that drum? Did it breathe out slaughter,
And ruin, and wrath and wrong to come?
Scarce a ripple was seen on the rising tide;
Scarce a breath in air; all was still, save the rattle
Of that stern drum, and it spake in its pride,
Of all that precedes and follows battle.

'Twas the evening drum of the sun-set hour,
And welcome its peal of duty done,
To the soldier in camp or castle tower,
Wherever his tent or garrison.
To us 'twas no more than the wonted sound,
And unheeded it fell on the listener's ear,
As due to the hour, and his fancy found
No startling presage of hope or fear.

But what said the angel of Sind, who hung
Self-poised in air, enthroned in cloud,
When the British drum for the first time rung
On the Indus' flood its alarum loud?
Rejoiced he, or sighed he, that angel form?
Was his heavenly glance in joy or sorrow,
When he thought of the past? Was it calm or storm
His prophetic view beheld for the morrow?

I've been young, and am old, and my life hath been
Where at morn and eve hath peal'd that drum;
Nor hath my ear heard, nor my eye yet seen,
That England's rule boded ruin and gloom.
It hath spread o'er the land, none knoweth how,—
It hath sunk its deep root, none knoweth whither;
And every opponent hath bow'd him low
Before the decree that brought it hither.

* * * *

No gain to the peasant behind his plough,—
No peace to the cot—no sheltering tree
For the injured to seek repose below,
Appeared in the *native dynasty.*
But what said the genius of Ind, when stood
The first of England's sons on the strand,
Like the patriarch fording through Jordan's flood,
A lonely man with but staff in hand.

Predestined was he to a happier hour—
And thus was our England's red-cross banner
Foreseen in her future pomp of power,
When the genius of Ind first look'd upon her.
He saw the Moslem's destroying sword
To reddening fires for the plough-share given;
He saw the Pendari's scattering horde
From the groaning land like wild wolves driven.

He saw the mysterious Thugis trade;
The fearfullest stain of blood that e'er fell
On the wondering world, unveiled, displayed,
And the gibbet adorned with the dogs of hell!
He saw the funeral fire redeem'd
From the Sutee's abhorr'd self-sacrifice;
And the Rajput's child more dear esteem'd
To the state, than she seem'd in her parents' eyes.

Who saith that our England hath nothing done
For this Eastern world? Oh! 'tis falsely said!
When all that the sun now rises on
Sees rapine subdued, and murder stay'd:
But hath England done all? Is her mission ended?
Oh, no! oh, no! she hath yet to brighten
The moral darkness with miseries blended,
To bind up and heal—to lift up and enlighten.

Doth the genius of Ind, surveying his land,
See this in fair progress? Ah woe! 'tis true,
The harvest is ripe, but our first-fruits stand
Scarce touched in the field by the laborers few!
The harvest's Lord in his own good time
Will call to the work the master spirits;
Nor think ye that Truth, in its march sublime,
Shall pause till all Ind its fruit inherits.

But ye, by whose mandate our British drum
First sent its loud roll o'er the Indus' water,
Distinguish ye signs of the time to come
In what Ind displays of all Truth hath taught her?
Oh, blind to the future, if drum and sword
Be all that your vision contemplate!
May the warning voice not remain unheard,
Till the warning voice be heard too late.

On their journey through Scinde, where the natives lately attempted to destroy the British army, by a perfidious attack, in which they were entirely defeated by General Napier, the ameers or chiefs held the most despotic sway and ruled with relentless severity; the picture presented by Doctor Kennedy will tend to shew that the native population can scarcely fail of having the chance of a much more paternal government under the British domination, than that which the Ameers exercised over them.

> "On the 24th, we marched to Sadan, a stage of 12 miles. Our whole route lay along the edges of the ridgy grounds, sometimes descending into the Indus' valley plain, which was here a thick wood descending to the river, and again reascending the ridge. The forest we passed through was one of the many which are the fearful curse inflicted by despotism on this unhappy country, whose finest tracts of land within the influence of irrigation from the river are waste, and devoted, as dense forests, to be preserves for game termed in the country Shi Kargah (game places) for the pastime of the chiefs. The mighty hunter, whose game was man, built cities! The savage Nimrods of this wretched country have destroyed flourishing villages, like the first Norman in Bolderwood, to create their new forests. Some ruins were pointed out to us, indicating the site of a once populous village which had been destroyed, and its inhabitants exiled to a distant district, by one of their princes, because the crowing of the village cocks, and other human sounds of its animal and human population disturbed the game in his brother's Shi Kargah. The Norman could not have done more; and it is but retributive justice which we read of in history that his heir died a violent death on the scene of some similar enormity. The human mind cannot contemplate a more bitterly speaking exposition of what the flinty heart of despotism becomes when indulged in the abuse of power, the *caput mortuum* distilled down step by step, from its first outbreaks in the insolence of place, and the intoxication of success, till it ends in the destruction of villages, and the expulsion of a population, for the creation of hunting grounds. A Nero is a *lusus naturae*; but the wild wantonness of despotism is the heart's desperate wickedness when unchecked, obeying every impulse of its native hardness. The mode of hunting pursued by these valorous Nimrods, so cruel to their dependents, so helpless before their enemies, is characteristic of the men and their position. The Shikargahs are fenced round with strong hedges, in some places watered; and the wild animals thus blockaded in, are supplied with water by a drain from the river. When a grand hunt is ordered, the supply of water is cut off for a few days, and restored only when the hunting party, in elevated and safe positions commanding the watercourse, are prepared to destroy

the poor beasts that rush to slake their thirst; and to this contemptible butcher-work, is the term hunting applied in Scinde."

The rapidity with which the flames spread in these dry and arid countries when the woods take fire is so great, that persons in the vicinity often find it impossible to escape. The wild animals also, encircled with the devouring flames are alike consumed. The following melancholy evidence of these accidents took place near Hydrabad, where they halted for three days.

"It would have been happy for three most excellent and promising young men, had we not lost those precious days at Jerruk; but such is man's existence—here to-day and gone to-morrow!—the sport apparently of accident, and pendent on a thread, till the place that knew him knoweth him no more! On the morning of the 29th of January, the adjacent shikargah was observed, from a dense column of smoke ascending, to be on fire, and many of our officers rode out to witness it. Among others, Dr. Hibbert of the 2nd, or Queen's Royals, and Lieutenants Spark and Nixon, of the same regiment, proceeded thither on foot with fowling-pieces and rifles, expecting exercise on the wild animals driven by the fire out of the burning forest. Lieutenant Halkett, of the same regiment, accompanied them on horseback; and when they plunged into the thickest part of the wood, and he found it impossible to accompany them, returned to camp, little dreaming of the melancholy fate awaiting them. No servant, and only one dog, was with them; and the poor beast the same evening returned to camp. On their not returning in the evening, some alarm was felt; and as we had supped full of rumours of war for some days before, it was conjectured that they might have been made prisoners by the Beloochies.

"On the following morning two parties of cavalry and irregular horse were sent in search of them; and, sad to say, a villager who had been cutting wood in the forest, and probably found it convenient to follow the course of the fire, had discovered and led the way to where their bodies were found, half buried in the smouldering and still hot ashes of the long grass and brushwood by which their clothes had been destroyed.

"More pitiable objects were never seen than the three bodies as brought into camp: not a vestige of their clothes remained; the extremities were partially consumed; and the blackened skin, and the limbs stiffened into the most frightful distortions, with features almost entirely defaced, exhibited to their friends the most distressing spectacle that can be imagined.

"An inquest was immediately assembled, and a verdict of 'accidental death' recorded. No sign of sword-cut or gun-shot wound appeared on their bodies; nor could it have been supposed that three energetic young men, well armed, could have met a violent death from the enemy without having given some account of their assailants. The relics of their clothes, such as metal buttons, were found on the spot. The barrels of their guns were a valuable booty when found, and were easily carried off; it was not wonderful that they were not found; but parts of the stocks remained, showing that they had been burned. The bodies had evidently not been rifled. Dr. Hibbert's gold rings were left on his fingers: and all three showed, by the injury received, where their powder-flasks had exploded on their sides; and one of the party being left-handed, the side on which the injury appeared indicated the character of the occurrence which occasioned it. This further proves another most satisfactory circumstance, that their sufferings must have been short; since no three men could possibly have been long surrounded by fire with their sense about them, without ridding themselves of their gunpowder.

A close examination of the spot where the bodies were found, which was not very far from where Lieutenant Halket had last seen them, seemed to show that they had ascended a tree from which to shoot such animals as might fly from the forest: some sudden change of wind appears to have brought the fire on them. One of them seemed to have dislocated his wrist, and to have broken the bones of his arm, in leaping, no doubt, wildly from the tree: his comrades may have perished through a vain attempt to rescue him.

"Dr. Hibbert was a young man of great acquirements and great industry; and the service, by this most unhappy occurrence, was deprived of a very valuable medical officer. His taste and skill as a draughtsman were very remarkable; and his promised assistance would have given a value to these pages which they cannot now possess.

"All three were buried in one grave, on the morning of the 31st; and the men of their regiment, the 2nd, or Queen's Royals, raised a cairn over the spot, of sufficient size to attract notice, and put together with sufficient care to secure endurance.

"The recorded verdict of the inquest did not satisfy the men, and the spirit of revenge was bitterly expressed. They were all interesting and amiable men, much beloved in their circle and by the soldiery; and had the regiment been led that evening to a charge on the Beloochies, the sad sight of their mutilated officers would have been fearfully remembered.

(To be concluded in our next.)

INSTITUTION OF CIVIL ENGINEERS.

ARTESIAN WELLS.

A letter was read from the late Sir John Robinson, giving a short account of the *Artesian Well at the Abbatoire slaughter house de Grenelle, Paris.*

The abbatoire being at too high a level to obtain an adequate supply of water by the ordinary means, it was proposed, about eight years since, to sink an Artesian well within the premises, which proposal having been agreed to, the execution of it was intrusted to Monsieur Mulot. The work having been perseveringly carried forward through many difficulties, the boring was terminated by the auger penetrating the water—bearing strata on the 26th February, 1841, when a sudden and violent rush of water occurred, overflowing at the surface of the ground. As the boring progressed, tubes of rolled iron, and subsequently of copper, were inserted to support the sides, the first being 12¼ inches diametor, and the lowest about 6½ inches diameter, reaching to a depth of 1794½ English feet The quantity of water thrown up while the bore remained in this state was about 880,000 imperial gallons per day, at a temperature of 82½° Fahrenheit; the expense incurred up to this time being upwards of £12,000, sterling. Sir John examined the theoretical reasons which had been given for the contortion of the tubes, which had been attributed to violent pulsations in the flowing water acting upon the outside of them, crushing them inwards; he objected to this reasoning as not being in accordance with the laws of hydrostatic pressure, and attributing it rather to mechanical causes arising from the force used in forcing the tubes down the hole, and even more to the violence they were subjected to in being withdrawn from it.

Remarks.—Mr. Cubitt had recently visited the well, and found the water flowing with considerable force through an orifice in the vertical pipe about eight feet beneath the level of the ground; the nozzle of the orifice, which was ten inches diameter, was about half fitted, and the stream was reported to be supplying about 2500 litres (550 gallons) per minute, at a temperature of 82° Fah. The water was not clear; it deposited a considerable quantity of fine sand, and occasionally stones of about two inches cube were brought up. He was informed that the water had at one period ascended to between 70 and 90 feet higher than the ground.

Mr. Taylor observed, that the temperature of the water nearly coincided with that of the United Mines in Cornwall, which were 295 fathoms, or 1770 feet deep. The highest temperature recorded there was, he believed, 96° Fah. It was well ascertained now, by the experiments of Mr. Fox, that the heat was not increased either by the decomposition of the pyrites, or the number of men and horses employed in the mines.

Mr. Enys said, that the experiments by Mr. Fox, as published in the report of the seventh meeting of the British Association (vol. vi. p. 133,) gave a temperature of 92° in the lode at a depth of 290 fathoms, where it was first reached in the cross-cut; but on proceeding along the same cross-cut, at 10 fathoms from the lode, the temperature decreased to 86°3′, and at 24 fathoms distant it was 85°3′; this would give a close approximation to the temperature quoted by Mr. Cubiit.

Mr. Braithwaite inquired at what depth the temperature began to increase; land-springs were generally at about 52°, and he found the water in wells 600 feet deep usually at 53° or 54°. He had understood that the temperature increased 1° for every 65 feet, after a certain depth.

Mr. Enys said, that Mr. Fox's experiments gave a rotio of increase of 1° of temperature in 48 feet, calculated from the surface. He thought that the close approximation of the temperature of the land-springs, an that in the wells mentioned by Mr. Braithwaite, might be accounted for by the rapidity with which the water filtered through the strata of the London basin.

Mr. Taylor anreed that the heat of the water was influenced by the nature of the strata; the Cornish miners, when they were taken to the North Welsh mines, were much inconvenienced by the coldness of the water in the latter, although the depth of the mines in both districts was nearly identical.

Mr. Braithwaite believed that his view of the temperature of wells would be corroborated by the coldness of the water in the new well at Southampton, which had now arrived at a very considerable depth, and he understood that the temperature of the water was almost 54°.

Mr. Simpson said, that the well at Southampton had been sunk and bored to the depth of 1063 feet; the supply of water was not considerable, and he was not aware that any observations had been made as to the temperature. A well at Chichester had now arrived at the depth of 1013 feet, and was still being carried lower.

Mr. Sopwith contended for the accuracy of the investigations of Count Brenner on the temperature of two German mines, and of Messrs. Fox, Buddle, and others in England; the differences between the results obtained were so trifling as to induce confidence in the conclusion they had arrived at, which was, that after allowing for the radiation of heat at a certain distance from the surface, the temperature is 1° for every 50 feet in depth. This law might not hold good in certain local basins, where, from the nature of the strata, the percolation of surface water was rapid, but in the extensive mining districts it certainly was correct.

Mr. Cubitt suggested that the close approximation of the temperature of the water in the well at Paris, and that observed by Mr. Fox at the same depth in Cornwall, might arise in some measure from the large volume of water in the former, and the rapidity with which it arrived at the surface: whereas in the deep wells which had been mentioned, the water had probably been allowed to cool before the temperature had been ascertained.

Mr. Clarke corroborated the opinion entertained by Mr. Cubitt. In a well which he had sunk to the depth of 540 feet at St. Alban's, he obtained, by an apparatus constructed for the purpose, some water from the bottom of the well, and found it 4° hotter than that which was pumped up from the same well. At the bottom of a well at Messrs. Barclay's brewery, 367 feet deep, the water was 3° hotter than at the water-level in the same well. Local causes frequently affected the temperature of water in wells. He had seen instances of the water being warmer at 60 and 70 feet than at 300 feet; but these cases could not influence the general law.

Mr. Vignoles considered the facts mentioned by Mr. Clarke to be very valuable, and as bearing out Mr. Cubitt's idea. There could be little doubt that if by means of self-registering thermometers, the temperature of the water was ascertained, at the issue of the springs, at the bottom of deep wells which were not influenced by local causes, the result would prove in accordance with the observations of Fox and others. By the laws of the circulation of fluids the heavier water, which had been cooled at the surface, mingled with the lighter and warmer water as it rose. The sides of the well also tended to abstract the heat. Therefore the temperature should be obtained at the greatest depth in order to make any correct experiment.

Mr. Braithwaite agreed in the influence of local circumstances; in a well at Cheshunt, at a depth of 40 feet, a sulphureous spring issued, the vapour of which almost killed the workmen; and when at last a vast number of observations have been made respecting the temperature of the interior of the earth, as far as men have been able to penetrate, it is generally agreed that the quicksilver rises in the thermometer one degree for every 50 feet of descent. Observations to this effect have been made in Prussia, England, Germany, in America by Humboldt, Russia, &c. &c. It appears, therefore, that we live upon the cooled surface of a vast globe of fire, always in a state of red heat, which developes itself in volcanoes and hot springs in most countries. Yet, if we admit this apparently correct theory, we will find the centre of the earth has a heat equal to 418,000 degrees. But we cannot conceal from ourselves that some circumstances are at variance with this Huttonian theory, though the facts of increased heat are undeniable. A very remarkable one is, that in deep mines where the workings have been abandoned, the temperature gradually subsides. In Oatfield Cornish mine the temperature sunk from 77° to 54°, in a period of several months. Our Irish mines in general are not sufficiently deep to make a satisfactory series of experiments on this interesting subject.—*Editor of the Dublin Literary Journal.*

REECE'S LIFE PRESERVER.

A protector of wire gauze similar to that of Mr. Jeffrey's respirator, is fixed close over the mouth and nostrils, and a support (from air confined with Indian rubber) is fastened to the back; the fiercest spray may dash against the gauze, but its violence is broken at the first impediment, a few drops may tric ke dow nthe second, but through the third, the air alone passes, warming itself in its passage; the swimmer floats, the animal heat is retained, and his confidence rapidly returns. The temperature of the sea is rarely under 40 degrees Fahr.; at that temperature twenty hours exposure could be easily borne; the supply of animal heat from respiration, its only source, being unchecked, the lungs are kept unchilled, and the neglect of this vital point has sacrificed many a life. On the first formation of the Royal Humane Society, a plan of artificial respiration was adopted. The lungs were inflated with cold air; none ever recovered. An apparatus for trying warm air has been presented, and the remedy will doubtless succeed. There is also this merciful dispensation of Providence that the ship dismasted by the storm is driven always to the shore; the victims sink within sight of the land; their shrieks heard from a shore thronged with those anxious but unable to give asistance. A certain protection is now offered. The unwillingness of ship-owners to furnish their ships with life-preservers has arisen from the inefficiency of those employed. We trust, now that one has been brought forward, which the inventor throws open to the world, that no vessel will be allowed to sail without being furnished with them.—*Polytechnic Review.*

CURIOUS INVENTION FOR DISCOVERING METALS AT THE BOTTOM OF THE WATER.

Lieutenant Ramslett, of the Russian navy, has made this important discovery. He finds if there is any kind of metal at the bottom of the sea, or in rivers, by means of a galvanic battery, of which the two isolated conductors are directed to the bottom of the water, where they are brought close together without coming into absolute contact. When the inferior extremities of these metallic threads touch a metal, it puts them into communication, and establishes a galvanic current into the conductors, the existance of which is made manifest to the observer by the declination of a compass placed under one of the threads. When this is ascertained it is easy, by means of a needle, which can be slid down to the point intimated, to tell whether the metal is iron. The application of this discovery to archæology is much dwelt upon, as by its application, like soundings, in the rivers of the vast old Roman Empire, it will readily appear where and what treasures of metallic art are imbedded there.—*Literary Gazette.*

MR. ARMSTRONG'S HYDRO-ELECTRIC MACHINE.

Mr. Armstrong has fitted up a high-pressure boiler, for the purpose of exhibiting the phenomena of the development of electricity by effluent steam, which was discovered by him and Mr. Pallison. The apparatus, as it is now exhibited at the Polytechnic Institution, consists of a cylindrical boiler, made of rolled iron plate, 3ft. 6in. in diameter by 6ft. 6in. long, without the smoke chamber, which is one foot additional. The furnace is within the boiler, and heated air is conveyed through the water in tubular flues to the smoke chamber to which the chimney is attached. The boiler is supported, at a height of three feet from the ground, by strong pillars of green glass, and the steam is discharged through forty-six jets, to which it is conducted by iron pipes, for the purpose of producing a partial condensation of the steam into water to be blown out with the steam, as that is supposed to add to the effect. The jets are each one-eight of an inch in diameter, and they are made of partridge wood, from the notion that the friction of the water and steam is the exciting cause of the electricity developed. The steam is raised to a pressure of 75lbs. to the square inch before it escapes through the jets, and it is received on a number of metallic points in connexion with the earth. The electrical effects of this apparatus are most powerful, and far surpass those of the gigantic plate machine which was recently exhibited as one of the wonders of the Polytechnic Institution. The sparks obtained are twenty inches long, and a large Leyden jar is charged about four times as rapidly by the issuing steam as by the large plate machine. The rationale of the excitement of electricity by effluent high-pressure steam was greatly misunderstood by Mr. Armstrong and by the French philosophers when the phenomenon was discovered; nor does it appear to be freed from mystification at present. Mr. Armstrong at first conceived that the cause was attributable to the quality of the water, as the steam from one locomotive boiler exhibited electricity, and that from another did not; but it was soon ascertained that the difference was caused by the forms of the apertures whence the steam escaped. The philosophers of the French academy, however, discarding the subsequent experience, insisted that the assumed saline particles in the water produced the electricity

Dr. Faraday has recently ascribed the cause to friction of the hot water against the sides of the jet-pipe. Dr. Faraday is good authority on the subject, otherwise his opinion would be laughed at; and the phenomena seems to be so readily and simply explainable by the different capacities of water and steam for electricity, and all the experiments performed by Mr. Pattison in 1840, so fully confirmed that view of the subject, that to seek for any other cause seems to be deserting the plain track merely to seek a more devious one in the regions of fancy. In the original experiments the issuing steam was condensed in insulated conductors from which the electricity was drawn; in the new arangement the electricity is obtained from the boiler. We do not at present see that this mode of developing electricity can be applied to any useful purpose, for the electricity thus developed, though in a high state of tension, is actually much less in quantity than can be effected by the chemical action of a pair of the smallest zinc copper-plates. Every new development of power has, however, some beneficial tendency; and, though at first it may appear to be useless, subsequent discoveries may render it applicable to important purposes.—*Artizan.*

ELECTRIC LIGHT A SUBSTITUTE FOR GAS.

A highly interesting experiment with the galvanic light, proposed by M. Archereau, as a substitute for that of gas, was made a few evenings since, on the Place de la Concorde. The light exhibited appeared to be about an inch and a half in diameter and was enclosed in a glass globe of about twelve inches in diameter. In the first instance, the gas lights of the Place de la Concorde, which are 100 in number were not extinguished. The appearance of those nearest the galvanic light was quite as faint and had the same dull hue, as the ordinary oil-lamps when near a gas-light of the full dimensions. When the gas-lights of the place were put out, the effect of the galvanic light was exceedingly brilliant, eclipsing even, in the opinion of many present, that of the hydro-oxygen light. It was easy to read small print at the distance of 100 yards, and it was only necessary to look at the shadow of the objects in the way of the light, to be convinced of its great illuminating power. The single light exhibited did not replace the whole of the gas-lights which had been put out, but we may fairly estimate it as equal, at least, to twenty, of the gas burners of the Place de la Concorde, where they are larger in volume than in most of the other parts of Paris. It would, therefore, require five of these galvanic lights to light the whole of the place; but the rays of these five lights meeting each other, would in all probability give a much more intense light to say nothing of the superiority in softness and color, than the present gas-lamps.

Although it is not explained in the above notice, yet we have no doubt that the galvanic battery used was that *lately* introduced in France, in which the zinc or positive plate remains the same, but the other or negative plate is charcoal instead of platina, silver or copper &c. This is said to be an improvement on all others and will be particularly cheap. The principle is not new, but we have not before heard of its being reduced to practise. In France where charcoal is in plenty, the previous knowledge seems first to have been made available.—*Editor of Dublin Literary Journal.*

THE MARINE GLUE.

THIS appears to us one of the most valuable inventions of the day, and not one of the least extraordinary. We could easily have conceived the practicability of making a composition possessed of some of the qualities by which the glue is distinguished: there are substances familiar to us, which would give the same adhesiveness, perhaps, and the same flexibility, but then they become softened by heat, and the substances again which resist heat are soluble in water. We have no doubt that Indian rubber is one of the chief ingredients of the glue, but Indian rubber alone would never answer, and the other substances with which it is compounded appear to completely remove the defects which would attach to Indian rubber singly.

It is needless to enter here into the details of the experiments by which the marine glue has been tested. These experiments, however, have been most severe and conclusive. Pieces of wood joined to the glue have been subjected to adverse strains, and precipitated from a great height upon a granite pavement. They have also been exposed to shot and shells, and subjected to every conceivable *experimentum crucis,* and in every case in which the joining has been properly made, the wood has given way before the glue. In the case of violent concussion, the wood has been shattered in every direction, while the glue remained comparatively unaffected. The experiments have been publicly made at the dock yards of Woolwich and Chatham; so that they are completely authenticated. For joining together pieces of timber for large masts, the glue appears to be particularly valuable, as by virtue of its elasticity it opposes no impediment to the yielding of the mast, when a strain comes upon it. For keeping decks tight, again, it is of much value as it is not disturbed by the working of the ship. It is also an excellent substance for filling up the cracks and flaws in timber, as by cementing the sides of the crack together, it renders it of no importance. These, however, are trivial cases. We are thoroughly convinced that ships will, before long, be put together by the marine glue entirely. And in the case of dock gates, breakwaters, and numberless other structures it will also be extensively used. This is all that we can now afford to say respecting this excellent compound: those who are desirous of learning more, we refer to a pamphlet entitled "Notes of the Marine Glue," by Alfred Jeffrey, patentee, a production of much literary merit and singular modesty.

Artizan.

SUBSTITUTE FOR INDIGO.

The *Morning Post* announces, that a young Scotchman travelling in the Shand country, adjoining the Birman Empire, has met with a plant used by the natives for dyeing, which is likely to supersede the use of Indigo, as it is only a tenth of the price. He has submitted it to the agri-horticultural society of Calcutta, and it has been pronounced to be a very valuable production, a genuine black vegetable dye.

Natural History.

THE HONEY BIRD.

IN the country of the Amakosa, honey is found plentifully, and the natives very frequently avail themsleves of the assistance of the honey bird, or bee cuckoo, (cuculus indicator) in searching for it. This bird, which is of a cinereous color, and somewhat larger than the common sparrow, is well known in South Africa, for its extraordinary faculty of discovering the hives or nests of the wild bees, which, in that country, are constructed either in hollow trees, in crevices of the rocks, or in holes in the ground. Being extremely fond of honey, and of the bees' eggs, or larvœ, and at the same time unable, without assistance, to obtain access to the bee hives, nature has supplied the indicator with the singular instinct of calling to its aid certain other animals, and especially man himself, to enable it to attain its object. This is a fact long ago established on the authority of Sparrman, Vaillant, and other scientific travellers in Southern Africa; and in Father Lobo's travels in Abyssinia, a similar account is given of the moroc, a bird found in that country, of precisely the same habits, and apparently of the same family with the *cuculus indicator* of the Cape of Good Hope.

With the habits of this curious bird, I was myself acquainted during my residence in the interior of the Cape Colony, and have often partaken of wild honey procured by its guidance. It usually sits on a tree by the way side, and when any passenger approaches, greets him with its peculiar cry of cher-a cherr! cher-a cherr! If he shews any disposition to attend to its call, it flies on before him, in short flights, from tree to tree, till it leads him to the spot where it knows a bee-hive to be concealed. It then sits still and silent till he has extracted the honey comb, of which it expects a portion, as its share of the spoil; and this share the natives, who profit by its guidance, never fail to leave it.

Sparrman states that the Ratel, or honey-badger (gulo mellivorus,) avails itself of the help of this bird to discover the retreat of those bees that build their nests in the ground, and shares with it the plunder of them. Some of the Hottentots assert, also, that to obtain access to the hives in hollow trees, the honey bird sometimes calls to its aid the woodpecker, a bird which finds in the larvœ, or young bees, a treat as enticing to its taste as the honey is to that of its ingenious associate.—*Thomas Pringle.*

Poetry.

A SERENE WINTER'S NIGHT.

How beautiful this Night! The balmiest sigh
Which vernal zephyrs breathe in Evening's ear,
Were discord to the speaking quietude
That wraps this noiseless scene. Heaven's ebon vault,
Studded with stars unutterably bright,
Through which the moon's unclouded grandeur rolls,
Seems like a canopy which Love had spread
To curtain her sleeping world. Yon gentle hills,
Robed in a garment of untrodden snow;
Yon darksome walls, whence icicles depend
So stainless, that their white and glittering spears
Tinge not the moon's pure beam; yon castled steep,
Whose banner hangeth o'er the time-worn tower
So idly, that wrapt Fancy deemeth it
A metaphor of Peace,—all form a scene
Where musing Solitude might love to lift
Her soul above this sphere of earthliness;
Where Silence undisturbed might watch alone—
So cold, so bright, so still!——

SHELLEY.

THE COMPLAINT OF THE POOR.

By Robert Southey.

And wherefore do the poor complain?
The rich man asked of me,—
Come walk abroad with me, I said
And I will answer thee.

Twas evening, and the frozen streets
Were cheerless to behold,
And we were wrapped and coated well,
And yet we were a-cold.

We met an old bare headed man,
His locks were few and white,
I ask'd him what he did abroad
In that cold winter's night.

'Twas bitter keen indeed, he said
But at home no fire had he,
And therefore he had come abroad
To ask for Charity.

We met a young bare-footed child,
And she begged loud and bold,
I ask'd her what she did abroad
When the wind it blew so cold.

She said her father was at home
And he lay sick a-bed,
And therefore was it she was sent
Abroad to beg for bread.

We saw a woman sitting down
Upon a stone to rest,
She had a baby at her back
And another at her breast.

I ask'd her why she loitered there
When the wind it blew so chill;
She turn'd her head and bade the child
That scream'd behind, be still.

She told us that her husband served
A soldier, far away,
And therefore to her parish she
Was begging back her way.

We met a girl; her dress was loose
And sunken was her eye,
Who, with the wanton's hollow voice
Address'd the passers by.

I asked her what there was in guilt
That could her heart allure
To shame, disease, and late remorse?
She answer'd, she was poor.

I turn'd me to the rich man then,
For silently stood he,
You ask'd me why the poor complain,
And these have answered thee.

FOR THE DUBLIN LITERARY JOURNAL.

A FRAGMENT.

The moon rolls onward in her course,
Thin clouds skim o'er her face,
The glitt'ring stars come forth, and shine
Around in peerless grace:
The murmurs of the rippling stream—
The rustling in the trees—
How calm the joy these scenes produce!
What holy inward peace!

Yon brilliant lamps, how numberless!
What distant worlds unknown!
How can the thought one moment live—
These shine for earth alone?
Perhaps they're peopled by a race
Of beings chaste and pure;
Obnoxious to no human cares—
From sin and death secure.

G. W. A—P—N.

Cambridge, Nov. 20, 1843.

ETRURIA CELTICA.

TO THE EDITOR OF THE DUBLIN LITERARY JOURNAL.

Dublin, Dec. 18th, 1843.

DEAR SIR,—As it was through the medium of your periodical that I first became acquainted with the instructive work of Sir William Betham, regarding the antiquities of Ireland, in which he demonstrates, in a most satisfactory manner, the early adventures of the Phœnicians, westward, and the discovery and colonization of this country by that enterprising people, it affords me great pleasure to state to you, that I was enabled by the amount of information gleaned from your columns on the subject, to interest some intelligent Englishmen with respect to it, to so great a degree, on a recent occasion when passing the Tuskar rock and the contiguous coast, in one of the well known Dublin and London steamers, that they declared their intention of speedily obtaining for themselves a literary production so fraught with matter of deep historic research, as that of the worthy knight.

It gratifies me exceedingly to make this communication.

I am, my dear Sir, yours truly,
ISAAC WILLIAMS.

Miscellanea.

NOTICES OF THE LATE KING OF PRUSSIA.

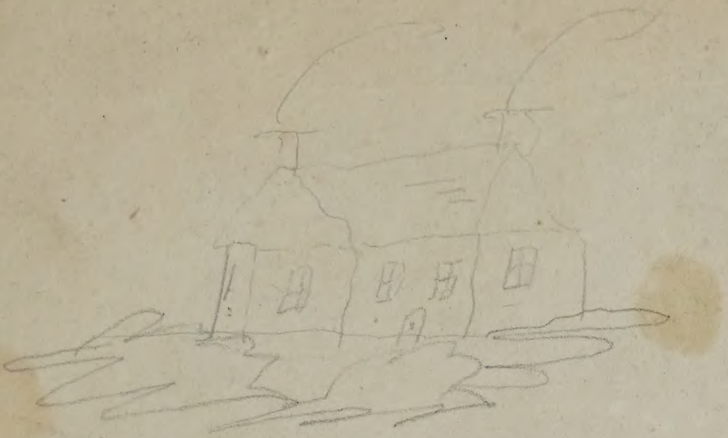
POWER OF RELIGION ON THE MIND.

ONE of the most honorable features of the character of Frederick William III., was his profound veneration for the Christian religion and its Divine founder; how fully he was imbued with its spirit, is shewn by numberless well-known instances of his unaffected humility, his unostentatious piety, and his readiness to forgive and forget injuries—a virtue which he had but too many occasions to practice. We will close our extracts for the present with an abridgment of Bishop Eylert's account of one memorable instance:

After the fatal battle of Jena in 1806, and its still more fatal consequences, numerous pamphlets, newspapers, &c., represented the new order of things in the most brilliant colors, and poured contempt and scorn on the unhappy King, as a weakling no longer equal to the exigency of his times, and as a cypher compared with the Emperor Napoleon.

The most insolent and shameless of these writings were, "Confidential Letters on the Prussian Court," and a periodical called "Firebrands," which the public voice ascribed to Colonel von Massenbach

This Massenbach was a clever, active



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